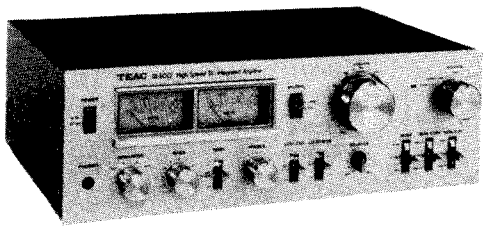
Bu 12/89

TEAC®



# SERVICE MANUAL

# BX-500
## High Speed DC Integrated Amplifier

# BX-300
## DC Integrated Amplifier

### CONTENTS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**CAUTION**

⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the TEAC Parts List and ensure exact replacement.


Effective: August, 1979 C-90019 5704001500

# 1 SPECIFICATIONS AND SERVICE DATA

## SPECIFICATIONS

| | BX-500 | BX-300 |
|---|---|---|
| Input Level | | |
| PHONO MC | 50 μV | 50 μV |
| PHONO MM | 2.5 mV | 2.5 mV |
| TUNER, AUX | 150 mV | 150 mV |
| TAPE 1, 2 | 150 mV | 150 mV |
| Input Impedance | | |
| PHONO MC | 33 ohm | 15 ohm |
| PHONO MM | 47 k ohm | 47 k ohm |
| TUNER, AUX | 10 k ohm | 10 k ohm |
| TAPE 1, 2 | 10 k ohm | 10 k ohm |
| Output Level | | |
| TAPE REC 1, 2 | 150 mV | 150 mV |
| Rated Output Power (Both channels driven, Distortion 0.1 %, Impedance 8 Ω, 1 kHz) | 55 W + 55 W | 35 W + 35 W |
| Required Speaker Impedance | 4 ~ 16 ohm | 4 ~ 16 ohm |
| SPEAKERS Select A or B | 8 ~ 16 ohm | 8 ~ 16 ohm |
| SPEAKERS Select A + B | 100 W | 80 W |
| Power Consumption | 8.5 kg (18-12/16 lbs) | 8.0 kg (17-10/16 lbs) |
| Weight | | |
| Dimensions | | |
| Width | 410 mm (16-1/8") | 410 mm (16-1/8") |
| Height | 140 mm (5-1/2") | 140 mm (5-1/2") |
| Depth | 272 mm (10-11/16") | 272 mm (10-11/16") |

Power Requirement and Frequency

| MODEL | Voltage (V) | Frequency (Hz) |
|---|---|---|
| GENERAL EXPORT | 100,117,220,240 | 50/60 |
| EUROPE | 220 | 50 |
| U.K., AUSTRALIA | 240 | 50 |
| U.S.A., CANADA | 117 | 60 |

## SERVICE DATA

**Power Muting Time** 3 ~ 8 Seconds

**AUX Section Characteristic**

**Frequency Response** 10 Hz ~ 30 kHz (0 dB ± 1 dB)

Input: 1 kHz, 7 mV ±3 dB

Output: 1 V

**TONE Controls**

| | 100 Hz | 1 kHz | 10 kHz |
|---|---|---|---|
| BASS and TREBLE MAX | +7dB ±1dB | 0dB ±1dB | +7dB ±1dB |
| BASS and TREBLE MIN | −7dB ±1dB | 0dB ±1dB | −7dB ±1dB |

**Harmonic Distortion** 20 Hz Less than 0.01%
1 kHz Less than 0.008%
20 kHz Less than 0.1%

**Channel Separation** More than 42 dB (At 1 kHz)

**Noise Level** Less than 560 μV ( −65 dB ), Weighted

**Damping Factor (8 Ω)** 50

**LOUDNESS Control (−40 dB)** 100 Hz +8 dB ±1 dB
20 kHz +5 dB ±1 dB

**Muting Circuit (BX-500)** −21 dB ±2 dB

**LOW CUT Filter (BX-500)** −3 dB ±1 dB/20Hz

**TONE CUT Circuit (BX-500)**

a) **Frequency Response** 10 Hz $^{+0}_{-1}$ dB
100 kHz $^{+0}_{-5}$ dB

b) **Harmonic Distortion** 20 Hz Less than 0.008%
1 kHz Less than 0.008%
20 kHz Less than 0.2%

c) **Noise Level** Less than 200 μV (−74 dB), Weighted

**Phono MM Section**

**Input Level (Input terminal 3.3 ohm)** 2.5 mV ±3 dB (1 kHz)

**Frequency response (RIAA Characteristic)**

20 Hz +19 dB ±1 dB
100 Hz +13.1 dB ±0.5 dB
10 kHz −13.7 dB ±0.5 dB
20 kHz −19.6 dB ±1 dB
1 kHz 0 dB

**Noise Level** Less than 48 μV ( −86 dB ), Weighted

**Harmonic Distortion** 20 Hz Less than 0.01%
1 kHz Less than 0.005%
20 kHz Less than 0.1%

**Phono MC Section**

**Input Level (Input Terminal 3.3 ohm)** 50 μV ±3 dB (1 kHz)

**Frequency response (RIAA Characteristic)**

20 Hz +19 dB ±1 dB
1 kHz 0 dB
20 kHz −19 dB ±1 dB

**Noise Level** Less than 250 μV ( −72 dB ), Weighted

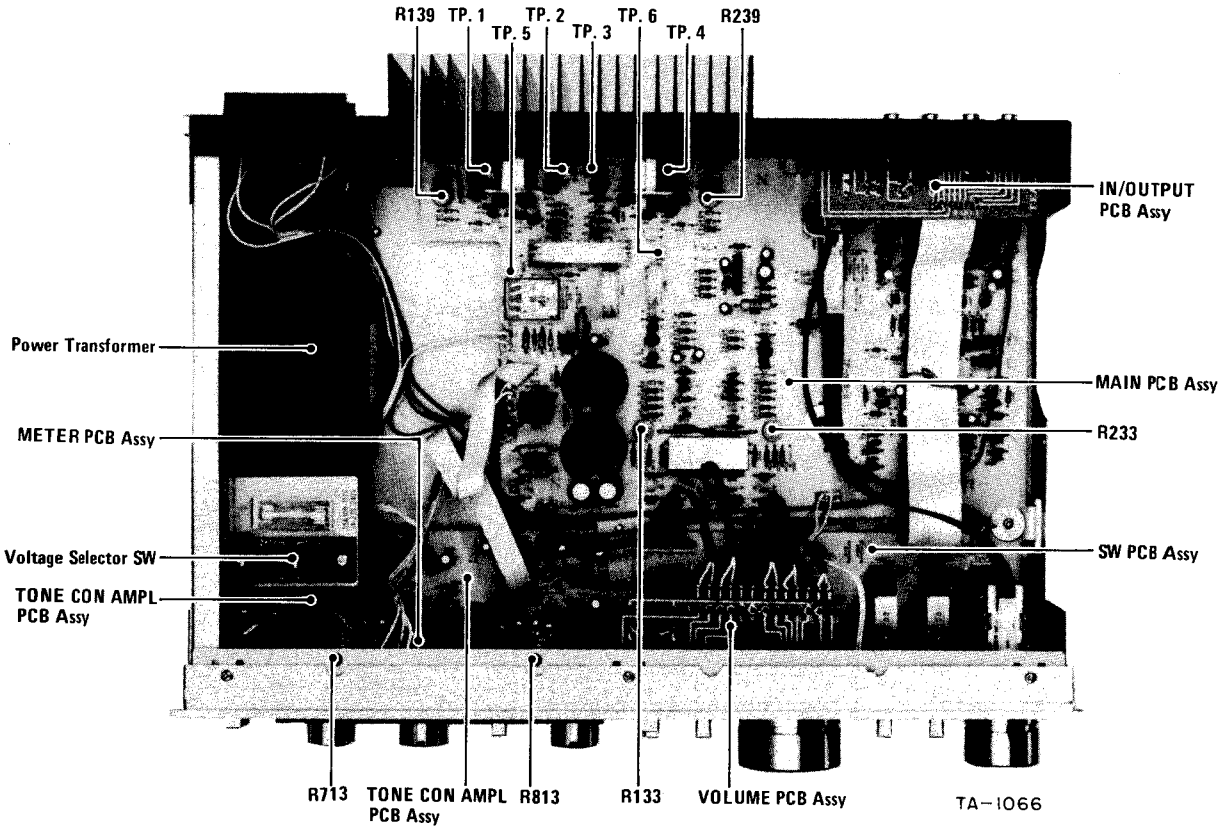
| Harmonic Distortion | BX-500 | BX-300 |
|---|---|---|
| 20 Hz | Less than 0.03% | Less than 0.1% |
| 1 kHz | Less than 0.03% | Less than 0.1% |
| 20 kHz | Less than 0.7% | Less than 0.7% |

The power requirements for products distributed in certain countries of Europe, U.K., Australia, Canada and the United States are not adjustable.

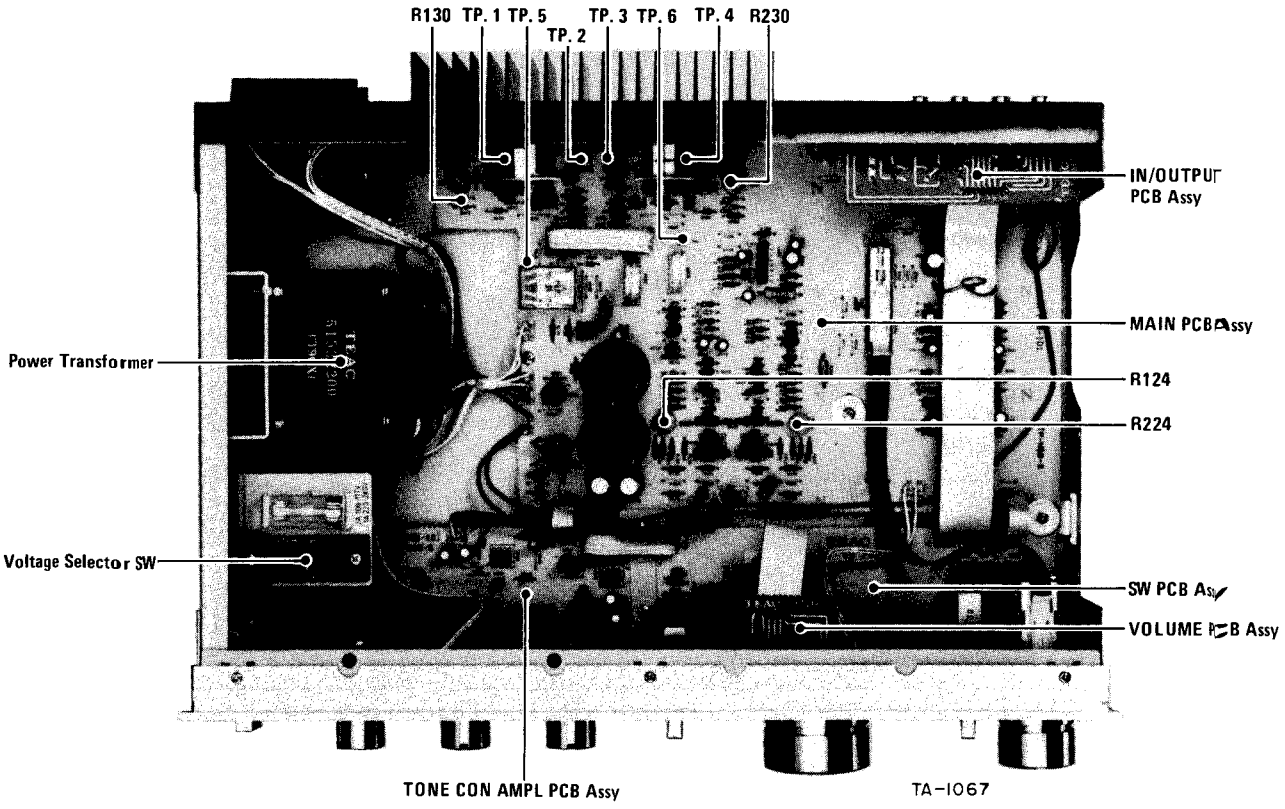
- Improvements may result in features or specifications change without notice.

# 2 PARTS LOCATION

## BX-500




## BX-300



# 3 ADJUSTMENTS AND VOLTAGE CONVERSION

## 3-1 BEFORE ADJUSTMENT (Do not apply AC power)

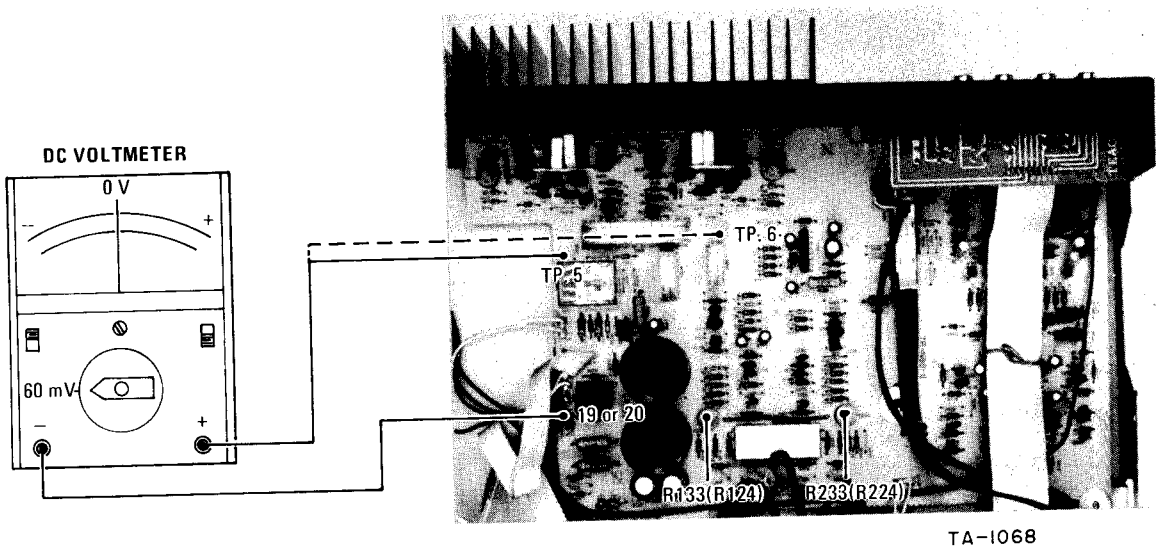
1. Set the VOLUME control to MIN and SPEAKERS selector to OFF.
2. Set the semi-fixed variable resistors at the following positions.

| | |
|---|---|
| R133/R233 (BX-500)<br>R124/R224 (BX-300) | At the center of full turning range |
| R139/R239 (BX-500)<br>R130/R230 (BX-300) | Fully counter-clockwise |

## 3-2 MID-POINT POTENTIAL ADJUSTMENT

1. Depress POWER switch to ON.
2. Connect the DC voltmeter between T.P-5 (for L-ch) or T.P-6 (for R-ch) and GND.
3. Adjust R133/R233 (BX-500) or R124/R224 (BX-300) so that the voltmeter indicates 0 V ± 10 mV.

Note: A differential voltmeter is preferable.

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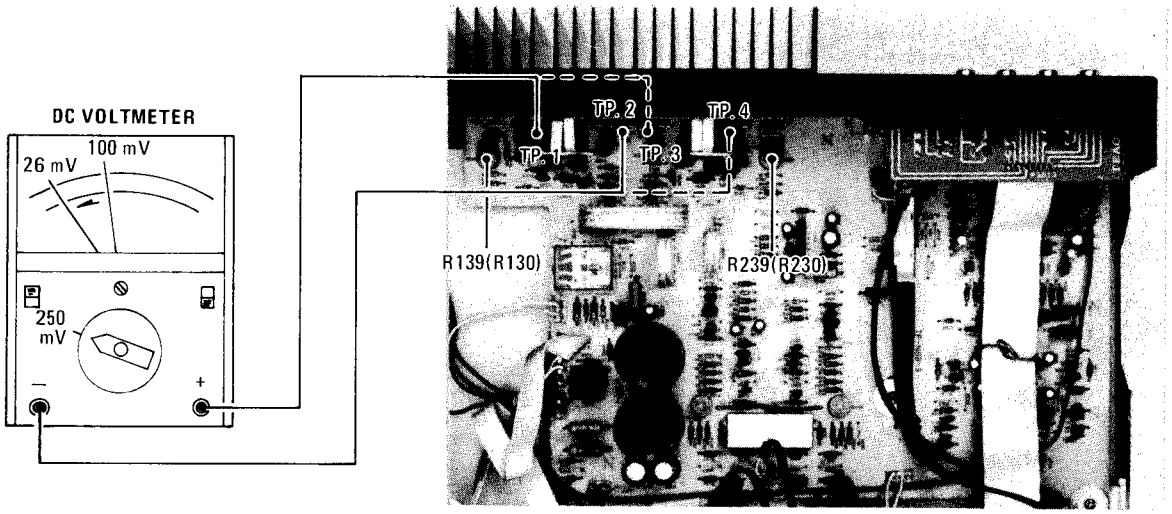
## 3-3 IDLING CURRENT ADJUSTMENT

1. Connect the DC voltmeter between T.P-1 and T.P-2.
2. Adjust R139 (BX-500) or R130 (BX-300) so that the DC voltmeter indicates approx. 100 mV.
3. After R139 (BX-500) or R130 (BX-300) adjusted, wait 30 seconds for idling.
4. Readjust R139 (BX-500) or R130 (BX-300) so that the DC voltmeter indicates 26 mV ±15 mV.
5. Connect the DC voltmeter between T.P-3 and T.P-4.
6. Repeat procedures 1 to 4 above and adjust R239 (BX-500) or R230 (BX-300).

**NOTE:** When using an oscilloscope, instead of the DC voltmeter, carefully connect the oscilloscope so that the oscilloscope GND terminal is not connected to the GND of the amplifier, thereby causing a short. Use the oscilloscope in the floating state.

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## 3-4 POWER OUTPUT METER ADJUSTMENT (BX-500 only)

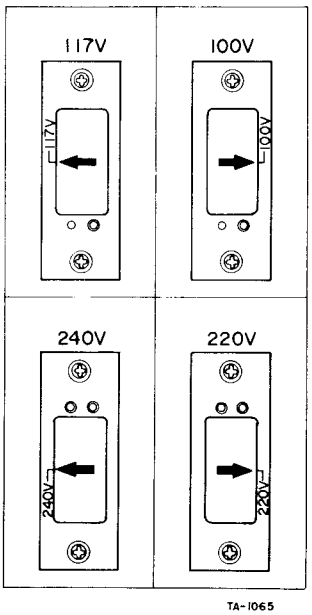
1. Connect the AC voltmeter to the SPEAKERS A terminal.
2. Set the SPEAKERS selector to A and SOURCE selector to AUX.
3. Set the VOLUME control to MAX.
4. Apply a 1 kHz input signal to provide an output power of 50 W (approx. 20 Vrms) to AUX terminals (AUX input approx. 150 mV).
5. Adjust R713 and R813 so that the Power Output Meters indicate 50 W.

**NOTE:** BX-500 should be placed in the normal operating position.

## 3-5 VOLTAGE CONVERSION (GENERAL EXPORT MODEL ONLY)

BE SURE TO REMOVE THE POWER CORD FROM THE AC OUTLET BEFORE REMOVING THE OUTER CASE AND RE-POSITIONING THE VOLTAGE CONVERSION PLUG.

1. Remove the top and side metal cover by removing screws in each side of the metal cover.
2. Locate the voltage selector plug on the left side of the BX-500, BX-300.
3. Remove the plug by pulling it out and re-install it so that the arrow on the plug exactly lines up with the white line that indicates the appropriate voltage.
4. Replace the top cover.

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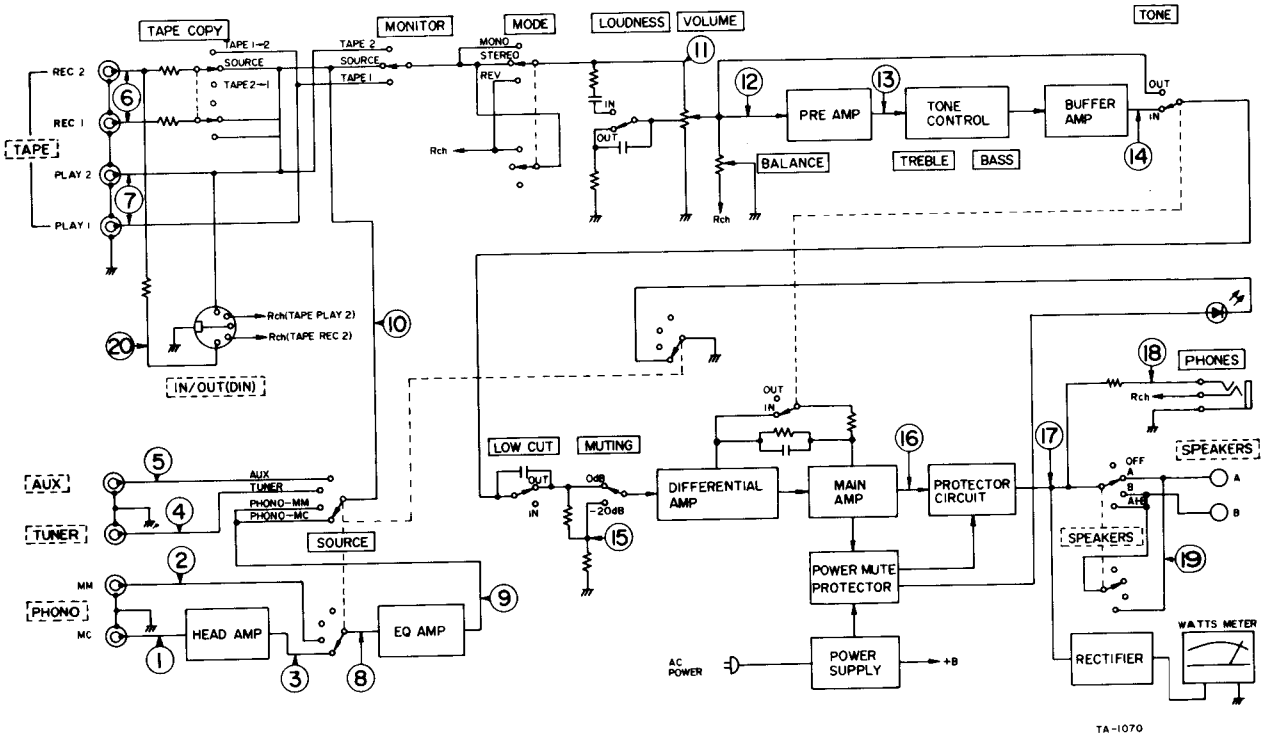
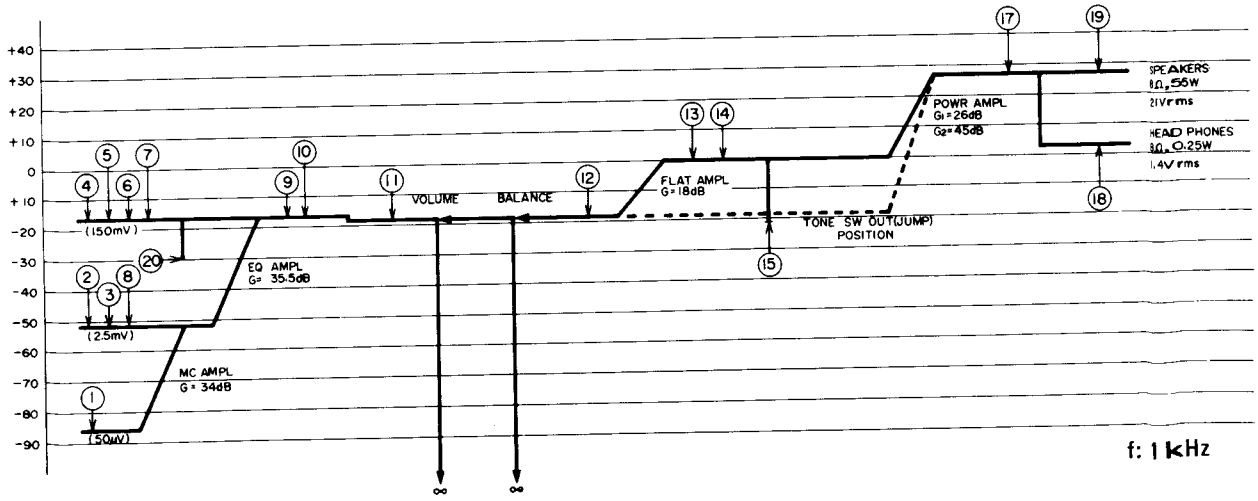
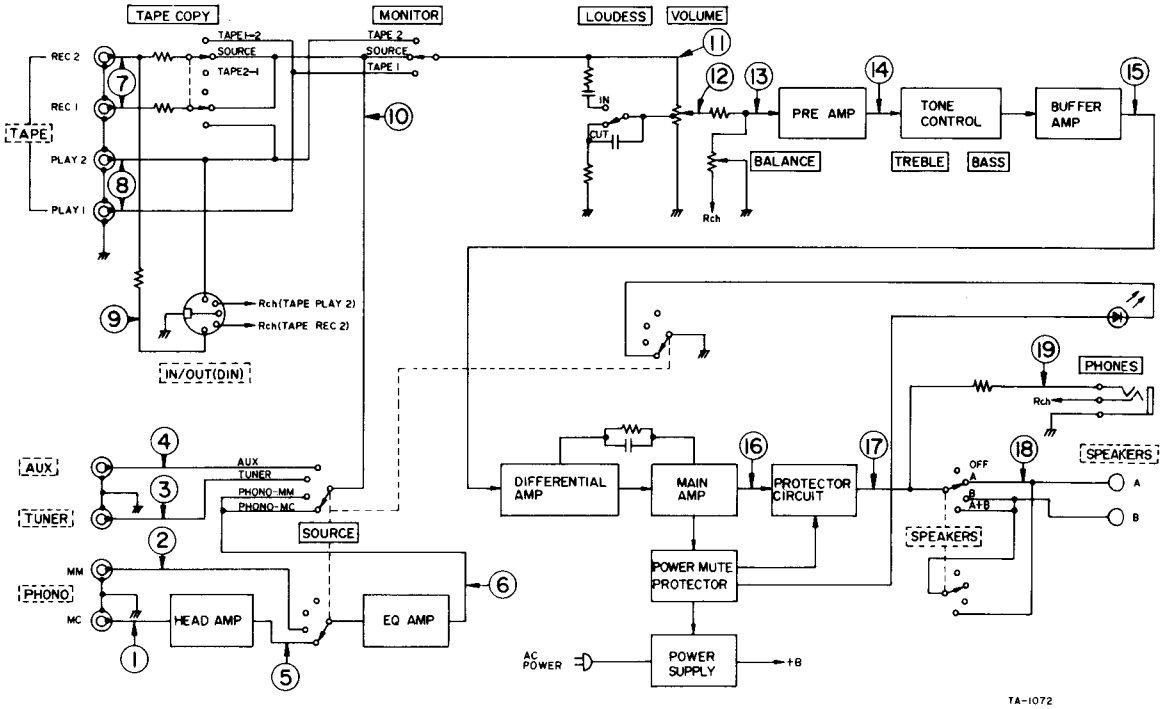
# 4 BLOCK AND LEVEL DIAGRAM

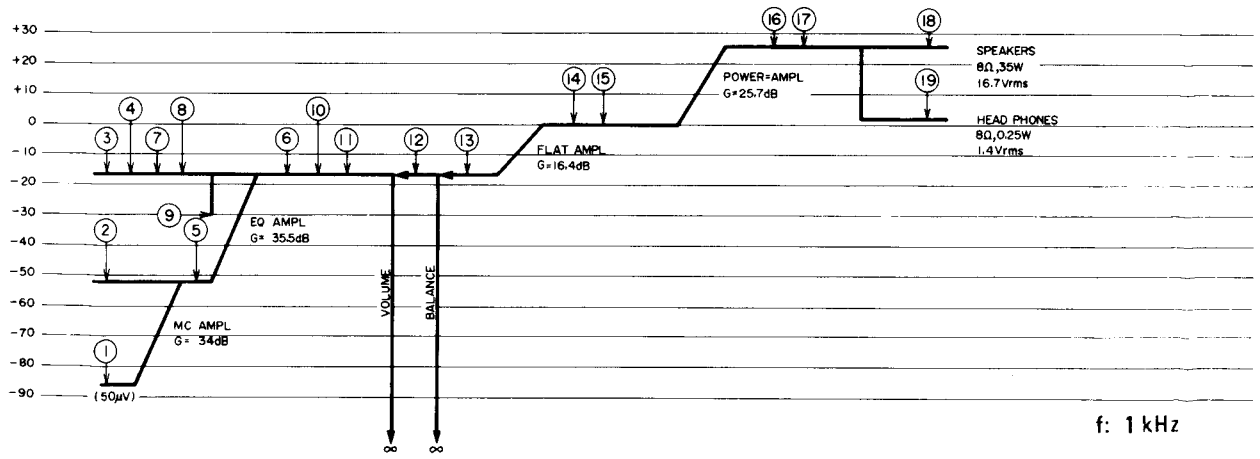
## BX-500



## BX-300

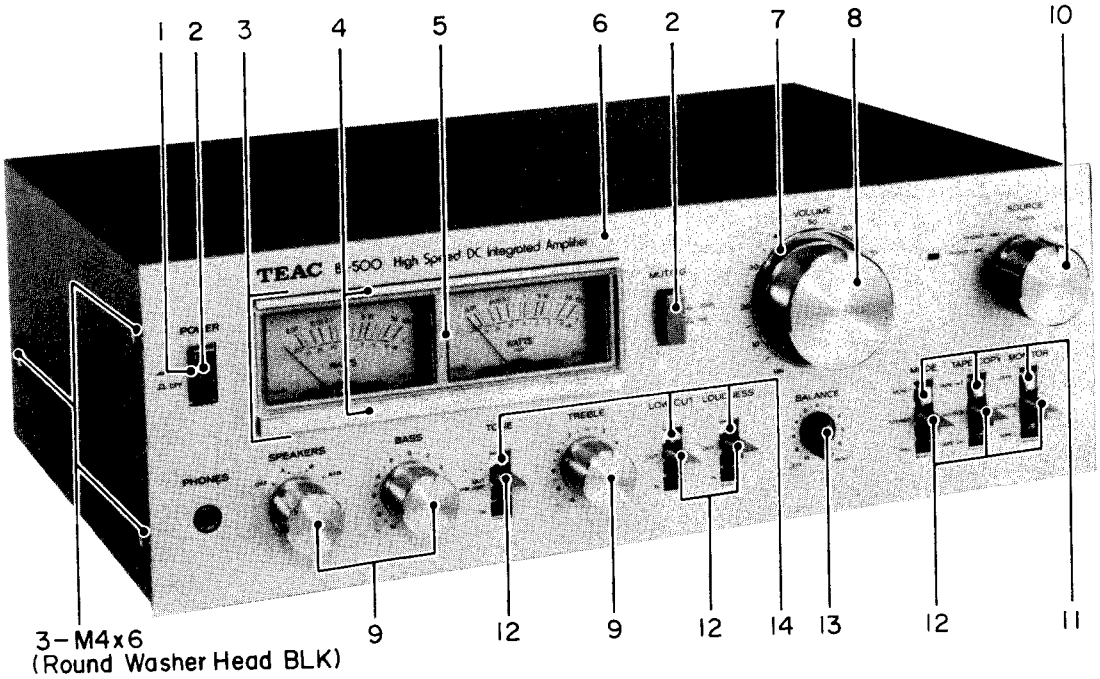

TAPE COPY
MONITOR
LOUDESS
VOLUME
TAPE 1→2
SOURCE
TAPE 2→1
TAPE 2
SOURCE
TAPE 1
REC 2
REC 1
TAPE
PLAY 2
PLAY 1
IN
CUT
Rch
BALANCE
PRE AMP
TONE CONTROL
TREBLE
BASS
BUFFER AMP
Rch(TAPE PLAY 2)
Rch(TAPE REC 2)
IN/OUT(DIN)
PHONES
Rch
AUX
TUNER
PHONO-MM
PHONO-MC
SOURCE
DIFFERENTIAL AMP
MAIN AMP
PROTECTOR CIRCUIT
OFF
A
B
A+B
SPEAKERS
A
B
MM
PHONO
MC
HEAD AMP
EQ AMP
POWER MUTE PROTECTOR
AC POWER
POWER SUPPLY
+B
TA-1072


+30
+20
+10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
(50μV)
EQ AMPL
G= 35.5dB
MC AMPL
G= 34dB
VOLUME
BALANCE
FLAT AMPL
G=16.4dB
POWER=AMPL
G=25.7dB
SPEAKERS
8Ω,35W
16.7Vrms
HEAD PHONES
8Ω,0.25W
1.4Vrms
f: 1 kHz

# 5 PARTS LOCATION AND PARTS LIST (BX-500)

**NOTE: BX-500B on parts list shows black type of front panel.**

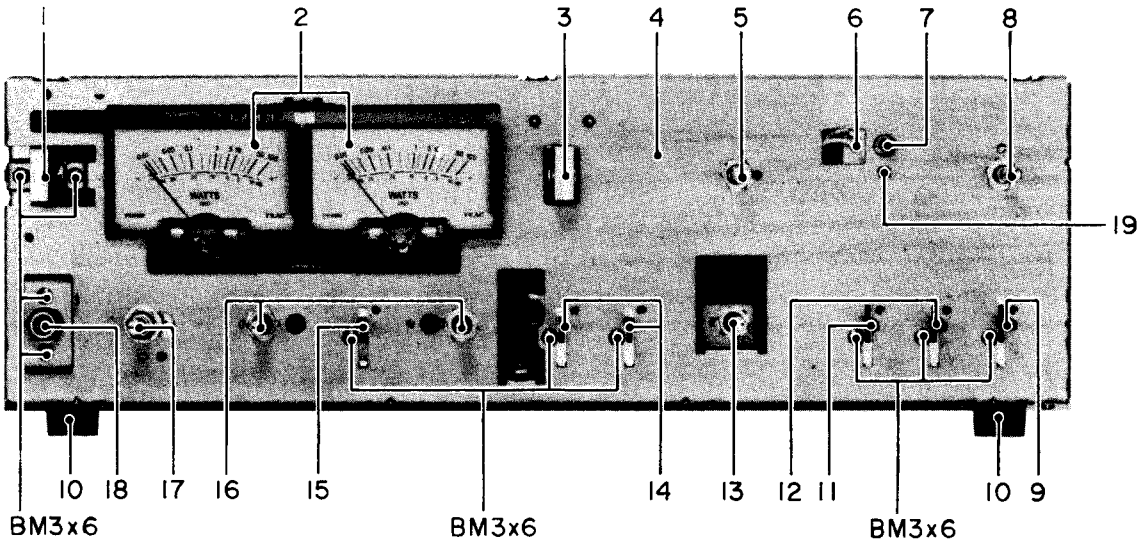
## PARTS LOCATION-1




**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 1 - 1 | *5534772000 | Escutcheon, Power Switch | |
| | *5800004800 | Escutcheon, Power Switch | (BX-500B) |
| 1 - 2 | 5534774000 | Button, Power Switch | |
| | 5800004600 | Button, Power Switch | (BX-500B) |
| 1 - 3 | *5503215000 | Cover Assy, Meter | |
| | *5800005200 | Cover Assy, Meter | (BX-500B) |
| 1 - 4 | *5533224000 | Escutcheon, Meter | |
| | *5800005100 | Escutcheon, Meter | (BX-500B) |
| 1 - 5 | *5533220000 | Cover, Meter | |
| 1 - 6 | *5502252000 | Panel Assy, Front | |
| | *5800006600 | Panel Assy, Front | (BX-500B) |
| 1 - 7 | *5553327000 | Escutcheon, Volume | |
| | *5800007100 | Escutcheon, Volume | (BX-500B) |
| 1 - 8 | 5555784000 | Knob, VOLUME | |
| | 5800007000 | Knob, VOLUME | (BX-500B) |
| 1 - 9 | 5555785000 | Knob, SPEAKERS·BASS·TREBLE | |
| | 5800007200 | Knob, SPEAKERS·BASS·TREBLE | (BX-500B) |
| 1 -10 | 5555729000 | Knob, SOURCE | |
| | 5800007300 | Knob, SOURCE | (BX-500B) |
| 1 -11 | *5534781000 | Escutcheon, Lever (3P) | |
| | *5800007500 | Escutcheon, Lever (3P) | (BX-500B) |
| 1 -12 | 5534779000 | Knob, Lever | |
| | 5800007600 | Knob, Lever | (BX-500B) |
| 1 -13 | 5555781000 | Knob, BALANCE | |
| | 5800004400 | Knob, BALANCE | (BX-500B) |
| 1 -14 | *5534780000 | Escutcheon, Lever (2P) | |
| | *5800007400 | Escutcheon, Lever (2P) | (BX-500B) |

## PARTS LOCATION-2

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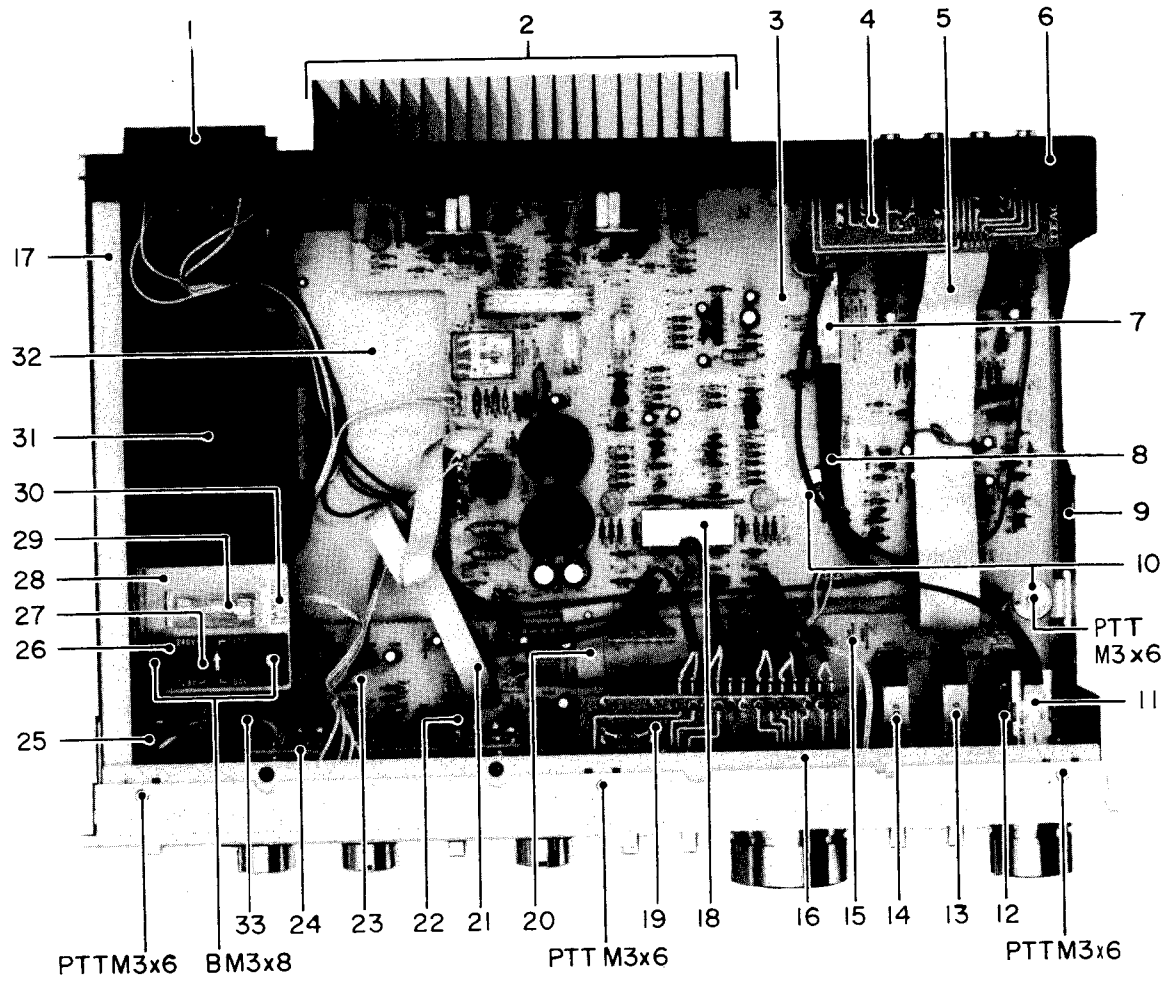
**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 2 - 1 | ⚠ 5134111000 | Switch, Power | JAPAN, GENERAL EXPORT |
| | ⚠ 5134112000 | Switch, Power | U.S.A., CANADA |
| | ⚠ 5134125000 | Switch, Power | EUROPE, U.K., AUSTRALIA |
| 2 - 2 | 5165066000 | Meter, Power Output | |
| | 5296000200 | Meter, Power Output | (BX-500B) |
| 2 - 3 | *5134113000 | Switch, Push | |
| 2 - 4 | *5551042000 | Chassis, Front | |
| 2 - 5 | 5150250000 | Resistor, Variable 100 k ohm-B x 2 | |
| 2 - 6 | *5158031000 | PCB Assy, LED | |
| | *5157031000 | PCB, LED | Part of 2 - 6 |
| 2 - 7 | 5143139000 | LED, (Green) SLB-26GG1 | Part of 2 - 6 |
| 2 - 8 | *5138014000 | Switch, Operation | |
| 2 - 9 | *5132055000 | Switch, Lever | |
| 2 - 10 | *5534432000 | Foot | |
| 2 - 11 | 5132050000 | Switch, Lever | |
| 2 - 12 | 5132054000 | Switch, Lever | |
| 2 - 13 | 5150249000 | Resistor, Variable 300 k ohm | |
| 2 - 14 | 5132051000 | Switch, Lever | |
| 2 - 15 | 5132048000 | Switch, Lever | |
| 2 - 16 | 5150251000 | Resistor, Variable 50 k ohm-B x 2 | |
| 2 - 17 | 5133016000 | Switch, Rotary | |
| 2 - 18 | 5124022000 | Jack, Phones | |
| 2 - 19 | *5534118000 | Rivet, Push | |

## PARTS LOCATION-3

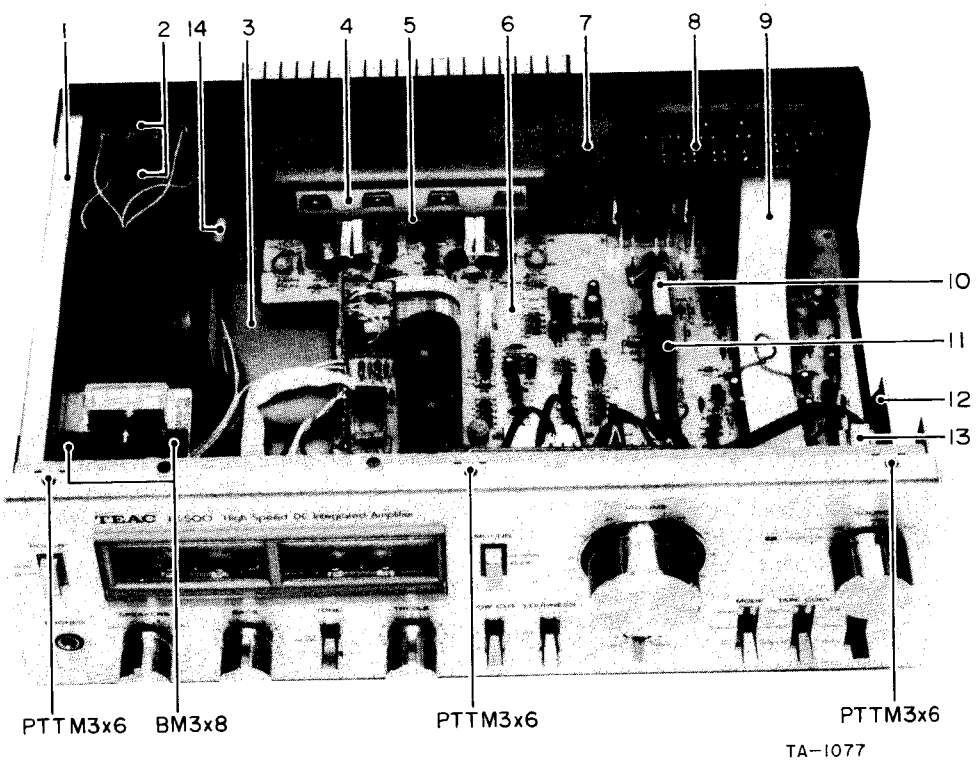



TA-1076

**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 3 - 1 | *5122399000 | Terminal, 4P Push | |
| 3 - 2 | *5553331000 | Heat Sink | |
| 3 - 3 | *5158029000 | PCB Assy, MAIN | |
| | *5157029000 | PCB, MAIN | Part of 3 - 3 |
| 3 - 4 | *5158024000 | PCB Assy, IN/OUTPUT | |
| | *5157024000 | PCB, IN/OUTPUT | Part of 3 - 4 |
| 3 - 5 | *5127616000 | Lead, Jumper | |
| 3 - 6 | *5552444000 | Panel, Rear | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| | *5552445000 | Panel, Rear | EUROPE, U.K., AUSTRALIA |
| 3 - 7 | *5138016000 | Switch, Slide | |
| 3 - 8 | *5138017000 | Switch, Wire | |
| 3 - 9 | *5553329000 | Shassis, Right Side | |
| 3 - 10 | *5580007000 | Washer | |
| 3 - 11 | *5138014000 | Switch, Operation | |
| 3 - 12 | *5132055000 | Switch, Lever | |
| 3 - 13 | *5132054000 | Switch, Lever | |
| 3 - 14 | *5132050000 | Switch, Lever | |
| 3 - 15 | *5158025000 | PCB Assy, SW | |
| | *5157025000 | PCB, SW | Part of 3 - 15 |
| 3 - 16 | *5551042000 | Shassis, Front | |
| 3 - 17 | *5552446000 | Chassis, Left Side | |
| 3 - 18 | *5555788000 | Cover, Transistor | |
| 3 - 19 | *5158026000 | PCB Assy, VOLUME | |
| | *5157026000 | PCB, VOLUME | Part of 3 - 19 |
| 3 - 20 | *5555786000 | Support, PCB; A | |
| 3 - 21 | *5127613000 | Lead, Jumper | |
| 3 - 22 | *5132048000 | Switch, Lever | |
| 3 - 23 | *5158027000 | PCB Assy, TONE CON AMPL | |
| | *5157027000 | PCB, TONE CON AMPL | Part of 3 - 23 |
| 3 - 24 | *5158030001 | PCB Assy, METER AMPL | |
| | *5157030001 | PCB, METER AMPL | Part of 3 - 24 |
| 3 - 25 | ⚠ 5134111000 | Switch, Power | JAPAN, GENERAL EXPORT |
| | ⚠ 5134112000 | Switch, Power | U.S.A., CANADA |
| | ⚠ 5134125000 | Switch, Power | EUROPE, U.K., AUSTRALIA |
| 3 - 26 | *5133015000 | Socket, Voltage Selector | GENERAL EXPORT |
| 3 - 27 | *5133014000 | Plug, Voltage Selector | GENERAL EXPORT |
| 3 - 28 | *5503231002 | Bracket Assy, Voltage Selector | |
| | *5553328000 | Bracket, Voltage Selector | Part of 3 - 28 |
| 3 - 29 | *5041227000 | Holder, Fuse (w/Cover) | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| | *5142096000 | Holder, Fuse | EUROPE, U.K., AUSTRALIA |
| | ⚠ 5142117000 | Fuse, 7A 125V | U.S.A., CANADA |
| | ⚠ 5142215000 | Fuse, 7A 125V | GENERAL EXPORT |
| | ⚠ 5142215000 | Fuse, 7A 125V | JAPAN |
| | ⚠ 5142191000 | Fuse, 3.15AT 250V | EUROPE, U.K., AUSTRALIA |
| 3 - 30 | *5720003800 | Seal, Fuse Capacity 3.15AT 250V | EUROPE, U.K., AUSTRALIA |
| | *5720003900 | Seal, Fuse Capacity 7A 125V | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| 3 - 31 | ⚠ 5152222000 | Transformer, Power | EUROPE, U.K., AUSTRALIA |
| | ⚠ 5152223000 | Transformer, Power | GENERAL EXPORT |
| | ⚠ 5152224000 | Transformer, Power | JAPAN, U.S.A., CANADA |
| 3 - 32 | *5502255000 | Chassis Assy, Bottom | |
| | *5552447000 | Chassis, Bottom | Part of 3 - 32 |
| 3 - 33 | *5158028000 | PCB Assy, TONE CON AMPL | |
| | *5157028000 | PCB, TONE CON AMPL | Part of 3 - 34 |
| | ⚠*5185664000 | Resistor, Carbon; R412, R512 10 ohm ½ W | Non Flammable Part of 3 - 34 |
| | *5160050000 | Coil, 2 μH | Part of 3 - 34 |

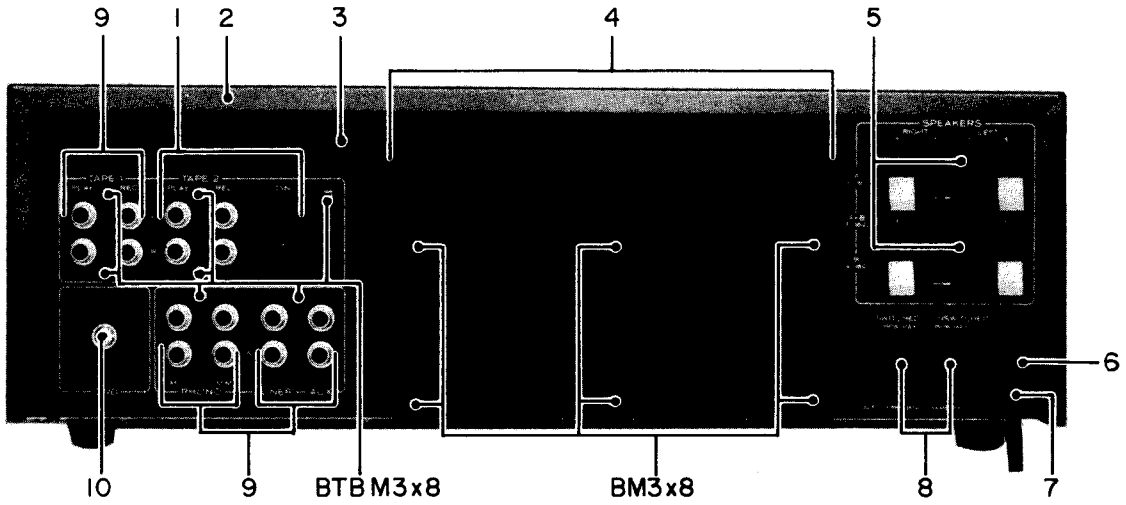
## PARTS LOCATION-4




**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 4 - 1 | *5552446000 | Chassis, Left Side | |
| 4 - 2 | *5122399000 | Terminal, 4P Push | |
| 4 - 3 | *5502255000 | Chassis Assy, Bottom | |
| | *5552447000 | Chassis, Bottom | Part of 4 - 3 |
| 4 - 4 | *5555846000 | Seat, Insulator | |
| 4 - 5 | *5553334000 | Support, Transistor | |
| 4 - 6 | *5158029000 | PCB Assy, MAIN | |
| | *5157029000 | PCB, MAIN | Part of 4 - 6 |
| 4 - 7 | *5552444000 | Panel, Rear | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| | *5552445000 | Panel, Rear | EUROPE, U.K., AUSTRALIA |
| 4 - 8 | *5158024000 | PCB Assy, IN/OUTPUT | |
| | *5157024000 | PCB, IN/OUTPUT | Part of 4 - 8 |
| 4 - 9 | *5127616000 | Lead, Jumper | |
| 4 - 10 | 5138016000 | Switch, Slide | |
| 4 - 11 | *5138017000 | Switch, Wire | |
| 4 - 12 | *5553329000 | Chassis, Right Side | |
| 4 - 13 | *5138014000 | Switch, Operation | |
| 4 - 14 | ⚠*5052909000 | Spark Killer, 0.1 mfd + 120 ohm 300 V | JAPAN |
| | ⚠*5171606000 | Spark Killer, 0.01 mfd 125 V | U.S.A. |
| | ⚠*5052916000 | Spark Killer, 0.01 mfd 125 V | CANADA |
| | ⚠*5052913000 | Spark Killer, 0.1 mfd + 120 ohm 300V | GENERAL EXPORT |
| | ⚠*5052917000 | Spark Killer, 0.01 mfd 450 V | EUROPE, U.K., AUSTRALIA |

## PARTS LOCATION-5



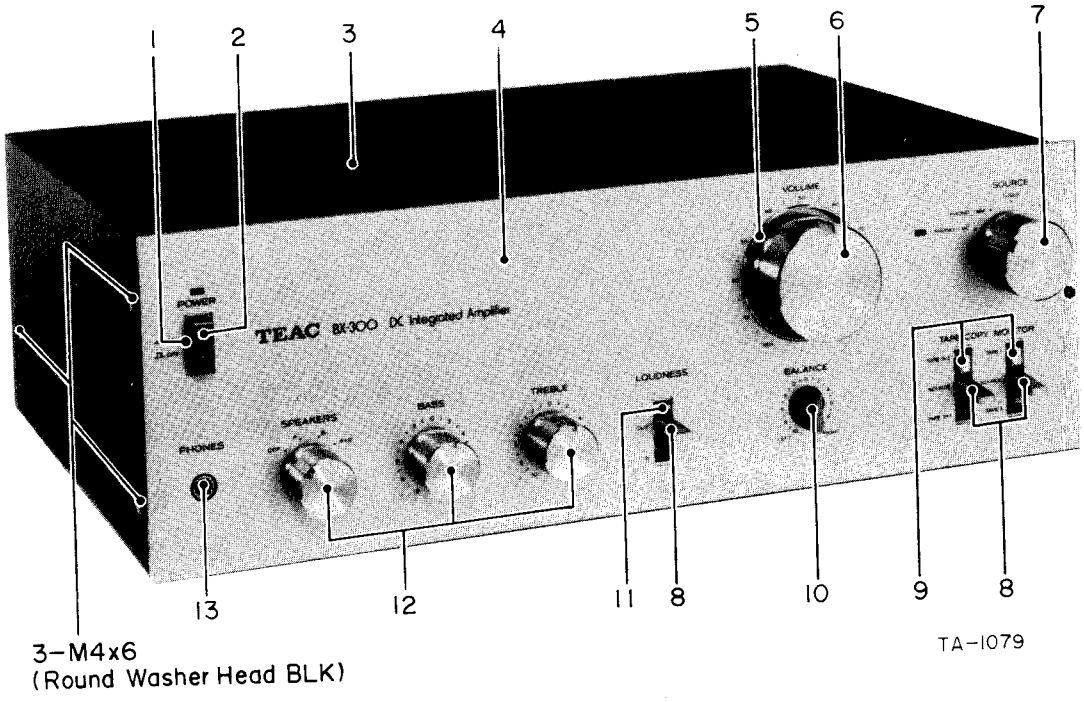

**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 5 - 1 | *5128102000 | Pin Jack, 4P (w/DIN) | |
| 5 - 2 | *5552438000 | Cover, Top | |
| 5 - 3 | *5552444000 | Panel, Rear | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| | *5552445000 | Panel, Rear | EUROPE, U.K., AUSTRALIA |
| 5 - 4 | *5553331000 | Heat Sink | |
| 5 - 5 | 5122399000 | Terminal, 4P Push | |
| 5 - 6 | *5534661000 | Strain Relief, AC Power Cord | U.K. |
| | *5534663000 | Strain Relief, AC Power Cord | AUSTRALIA |
| | *5534660000 | Strain Relief, AC Power Cord | All except U.K., AUSTRALIA |
| 5 - 7 | ⚠ 5128034000 | Cord, AC Power | JAPAN, GENERAL EXPORT |
| | ⚠ 5128075000 | Cord, AC Power | U.S.A., CANADA |
| | ⚠*5128018000 | Cord, AC Power | EUROPE |
| | ⚠*5128094000 | Cord, AC Power | EUROPE |
| | ⚠*5128047000 | Cord, AC Power | U.K. |
| | ⚠*5128031000 | Cord, AC Power | AUSTRALIA |
| 5 - 8 | ⚠ 5122397000 | Socket, AC Outlet | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| 5 - 9 | *5128103000 | Pin Jack, 4P | |
| 5 - 10 | *5045407100 | Terminal, GND | |

# 6 PARTS LOCATION AND PARTS LIST (BX-300)

**NOTE: BX-300B on parts list shows black type of front panel.**

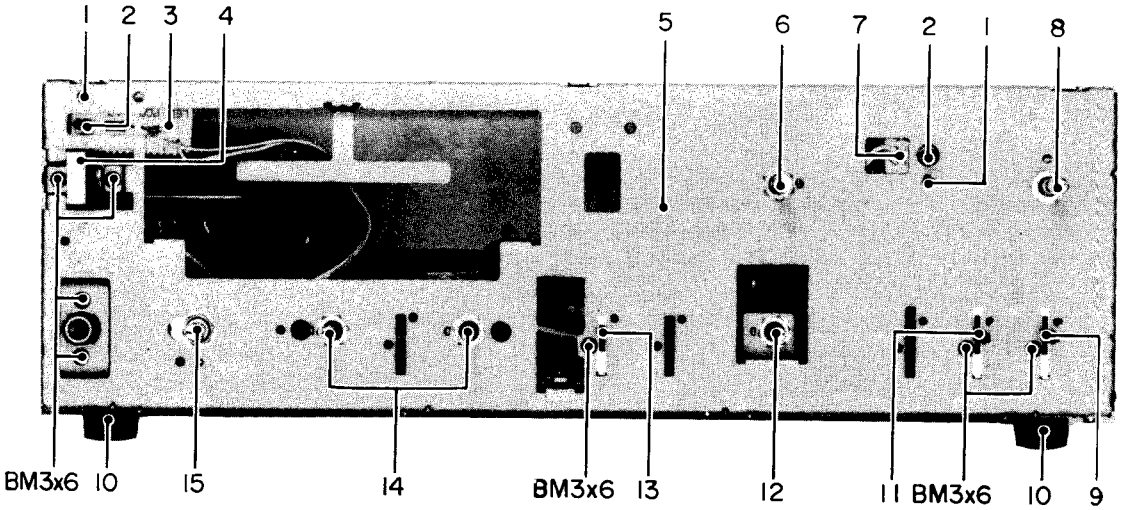
## PARTS LOCATION-1




**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 1 - 1 | *5534772000 | Escutcheon, Power Switch | |
| | *5800004800 | Escutcheon, Power Switch | (BX-300B) |
| 1 - 2 | 5534774000 | Button, Power Switch | |
| | 5800004600 | Button, Power Switch | (BX-300B) |
| 1 - 3 | *5552438000 | Cover, Top | |
| 1 - 4 | *5502251000 | Panel Assy, Front | |
| | *5800006500 | Panel Assy, Front | (BX-300B) |
| 1 - 5 | *5553327000 | Escutcheon, Volume | |
| | *5800007100 | Escutcheon, Volume | (BX-300B) |
| 1 - 6 | 5555784000 | Knob, VOLUME | |
| | 5800007000 | Knob, VOLUME | (BX-300B) |
| 1 - 7 | 5534729000 | Knob, SOURCE | |
| | 5800007300 | Knob, SOURCE | (BX-300B) |
| 1 - 8 | 5534779000 | Knob, Lever | |
| | 5800007600 | Knob, Lever | (BX-300B) |
| 1 - 9 | *5534781000 | Escutcheon, Lever (3P) | |
| | *5800007500 | Escutcheon, Lever (3P) | (BX-300B) |
| 1 - 10 | 5555781000 | Knob, BALANCE | |
| | 5800004400 | Knob, BALANCE | (BX-300B) |
| 1 - 11 | *5534780000 | Escutcheon, Lever (2P) | |
| | *5800007400 | Escutcheon, Lever (2P) | (BX-300B) |
| 1 - 12 | 5555785000 | Knob, SPEAKERS · BASS · TREBLE | |
| | 5800007200 | Knob, SPEAKERS · BASS · TREBLE | (BX-300B) |
| 1 - 13 | 5124022000 | Jack, Phones | |

## PARTS LOCATION-2

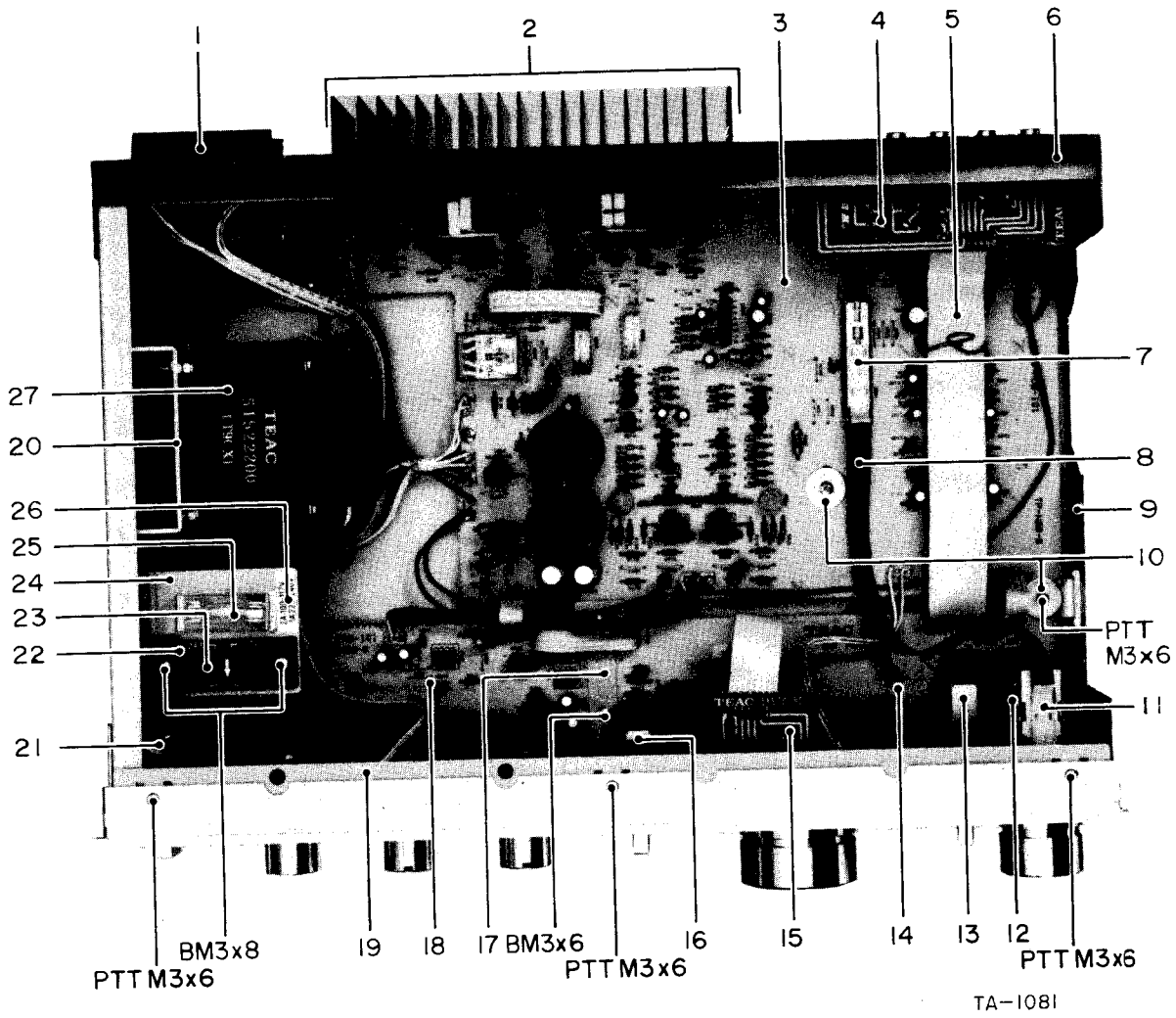



TA-1080

**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 2 - 1 | *5534118000 | Rivet, Push | |
| 2 - 2 | 5143139000 | LED, (Green) SLB-26GG1 | Part of 2 - 3, 2 - 7 |
| 2 - 3 | *5158021000 | PCB Assy, LED | |
| | *5157021000 | PCB, LED | Part of 2 - 3 |
| | *5180080000 | Resistor, Carbon; 820 ohm ¼ W | Part of 2 - 3 |
| | *5143148000 | Diode, D903 1S2471HJ | Part of 2 - 3 |
| 2 - 4 | ⚠ 5134111000 | Switch, Power | JAPAN, GENERAL EXPORT |
| | ⚠ 5134112000 | Switch, Power | U.S.A., CANADA |
| | ⚠ 5134125000 | Switch, Power | EUROPE, U.K., AUSTRALIA |
| 2 - 5 | *5551042000 | Shassis, Front | |
| 2 - 6 | 5150250000 | Resistor, Variable 100 k ohm-B x 2 | Part of 3 - 15 |
| 2 - 7 | *5158031000 | PCB Assy, LED | |
| | *5157031000 | PCB, LED | Part of 2 - 7 |
| 2 - 8 | *5138014000 | Switch, Operation | |
| 2 - 9 | *5132055000 | Switch, Lever | |
| 2 - 10 | *5534432000 | Foot | |
| 2 - 11 | *5132054000 | Switch, Lever | |
| 2 - 12 | 5150249000 | Resistor, Variable 300 k ohm | |
| 2 - 13 | *5132051000 | Switch, Lever | |
| 2 - 14 | 5150251000 | Resistor, Variable 50 k ohm-B x 2 | |
| 2 - 15 | 5133016000 | Switch, Rotary | |

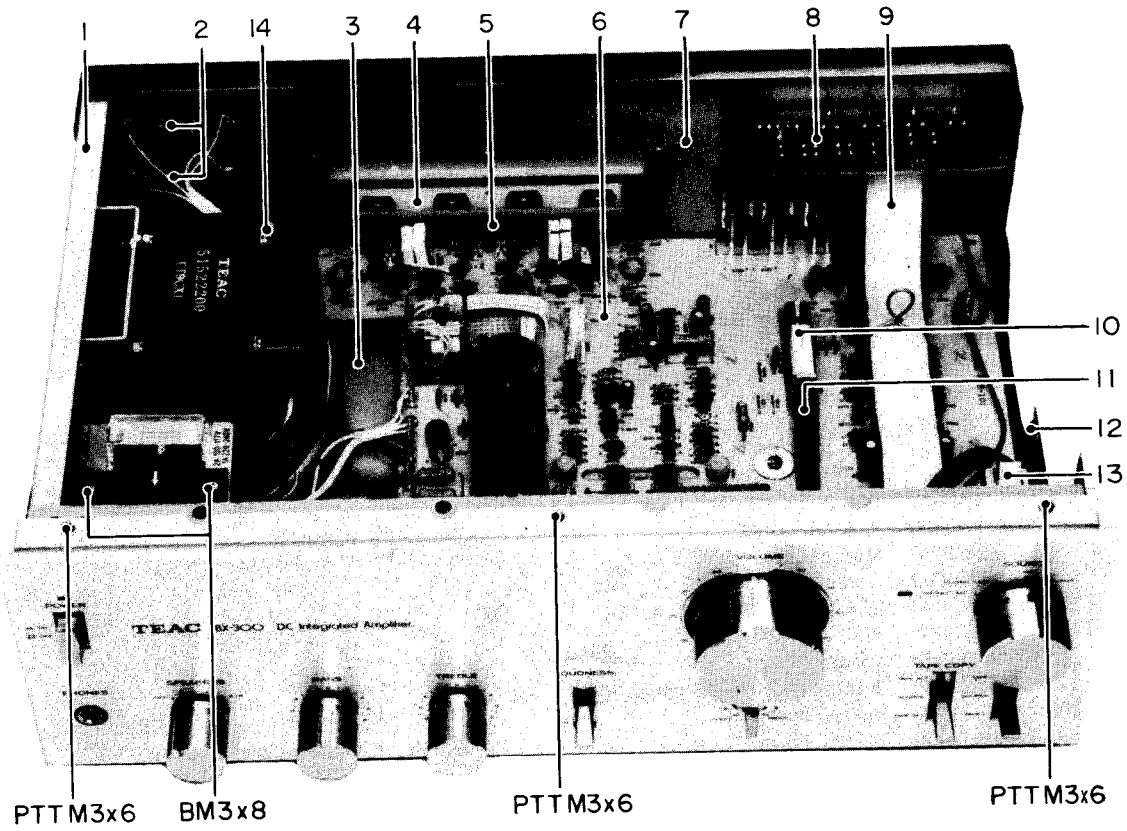
## PARTS LOCATION-3



**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 3 - 1 | *5122399000 | Terminal, 4P Push | |
| 3 - 2 | *5553330000 | Heat Sink | |
| 3 - 3 | *5158020000 | PCB Assy, MAIN | |
| | *5157020000 | PCB, MAIN | Part of 3 - 3 |
| 3 - 4 | *5158016000 | PCB Assy, IN/OUTPUT | |
| | *5157016000 | PCB, IN/OUTPUT | Part of 3 - 4 |
| 3 - 5 | *5127616000 | Lead, Jumper | |
| 3 - 6 | *5552444000 | Panel, Rear | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| | *5552445000 | Panel, Rear | EUROPE, U.K., AUSTRALIA |
| 3 - 7 | *5138016000 | Switch, Slide | |
| 3 - 8 | *5138017000 | Switch, Wire | |
| 3 - 9 | *5553329000 | Chassis, Right Side | |
| 3 - 10 | *5580007000 | Washer | |
| 3 - 11 | *5138014000 | Switch, Operation | |
| 3 - 12 | 5132055000 | Switch, Lever | |
| 3 - 13 | 5132054000 | Switch, Lever | |
| 3 - 14 | *5158017000 | PCB Assy, SW | |
| | *5157017000 | PCB, SW | Part of 3 - 14 |
| 3 - 15 | *5158018000 | PCB Assy, VOLUME | |
| | *5157018000 | PCB, VOLUME | Part of 3 - 15 |
| 3 - 16 | 5132051000 | Switch, Lever | |
| 3 - 17 | *5555786000 | Support, PCB; A | |
| 3 - 18 | *5158019000 | PCB Assy, TON CONE AMPL | |
| | *5157019000 | PCB, TON CONE AMPL | Part of 3 - 18 |
| 3 - 19 | *5551042000 | Chassis, Front | |
| 3 - 20 | *5553332000 | Bracket, Transformer Mounting | |
| 3 - 21 | ⚠ 5134111000 | Switch, Power | JAPAN, GENERAL EXPORT |
| | ⚠ 5134112000 | Switch, Power | U.S.A., CANADA |
| | ⚠ 5134125000 | Switch, Power | EUROPE, U.K., AUSTRALIA |
| 3 - 22 | *5133015000 | Socket, Voltage Selector | GENERAL EXPORT |
| 3 - 23 | *5133014000 | Plug, Voltage Selector | GENERAL EXPORT |
| 3 - 24 | *5503231000 | Bracket Assy, Voltage Selector | |
| | *5553328001 | Bracket, Voltage Selector | Part of 3 - 24 |
| 3 - 25 | *5041227000 | Holder, Fuse (w/Cover) | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| | *5142096000 | Holder, Fuse | EUROPE, U.K., AUSTRALIA |
| | ⚠ 5041144000 | Fuse, 2 A 250 V | U.S.A., CANADA |
| | ⚠ 5041101000 | Fuse, 1 A 250 V | GENERAL EXPORT |
| | ⚠ 5041114000 | Fuse, 2 A 250 V | GENERAL EXPORT |
| | ⚠ 5041141000 | Fuse, 1 A 250 V | EUROPE, U.K., AUSTRALIA |
| 3 - 26 | *5564127000 | Seal, Fuse Capacity 1 A 250 V | EUROPE, U.K., AUSTRALIA |
| | *5560047000 | Seal, Fuse Capacity 2 A 250 V | JAPAN, U.S.A. |
| | *5564722000 | Seal, Fuse Capacity 2 A 250 V | JAPAN, U.S.A., CANADA |
| | *5564677000 | Seal, Fuse Capacity 2 A 100-117 V, 1 A 220-240 V | GENERAL EXPORT |
| 3 - 27 | ⚠ 5152219000 | Transformer, Power | EUROPE, U.K., AUSTRALIA |
| | ⚠ 5152220000 | Transformer, Power | GENERAL EXPORT |
| | ⚠ 5152221000 | Transformer, Power | JAPAN, U.S.A., CANADA |

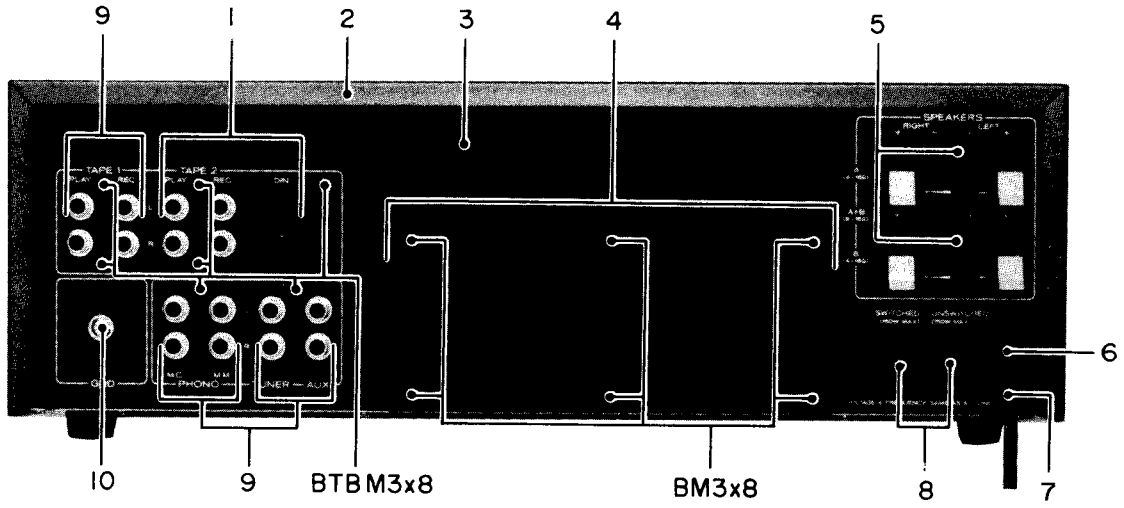
## PARTS LOCATION-4




**Parts marked with *require longer delivery time than regular parts.**

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 4 - 1 | *5552446000 | Chassis, Left Side | |
| 4 - 2 | *5122399000 | Terminal, 4P Push | |
| 4 - 3 | *5502255000 | Chassis Assy, Bottom | |
| | *5552447000 | Chassis, Bottom | Part of 4 - 3 |
| 4 - 4 | *5555846000 | Seat, Insulator | |
| 4 - 5 | *5553334000 | Support, Transistor | |
| 4 - 6 | *5158020000 | PCB Assy, MAIN | |
| | *5157020000 | PCB, MAIN | Part of 4 - 6 |
| 4 - 7 | *5552444000 | Panel, Rear | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| | *5552445000 | Panel, Rear | EUROPE, U.K., AUSTRALIA |
| 4 - 8 | *5158016000 | PCB Assy, IN/OUTPUT | |
| | *5157016000 | PCB, IN/OUTPUT | Part of 4 - 8 |
| 4 - 9 | *5127616000 | Lead, Jumper | |
| 4 - 10 | 5138016000 | Switch, Slide | |
| 4 - 11 | *5138017000 | Switch, Wire | |
| 4 - 12 | *5553329000 | Chassis, Right Side | |
| 4 - 13 | 5138014000 | Switch, Operation | |
| 4 - 14 | ⚠*5052909000 | Spark Killer, 0.1 mfd + 120 ohm 300 V | JAPAN |
| | ⚠*5171606000 | Spark Killer, 0.01 mfd 125 V | U.S.A. |
| | ⚠*5052916000 | Spark Killer, 0.01 mfd 125 V | CANADA |
| | ⚠*5052913000 | Spark Killer, 0.1 mfd + 120 ohm 300 V | GENERAL EXPORT |
| | ⚠*5052917000 | Spark Killer, 0.01 mfd 450 V | EUROPE, U.K., AUSTRALIA |

## PARTS LOCATION-5



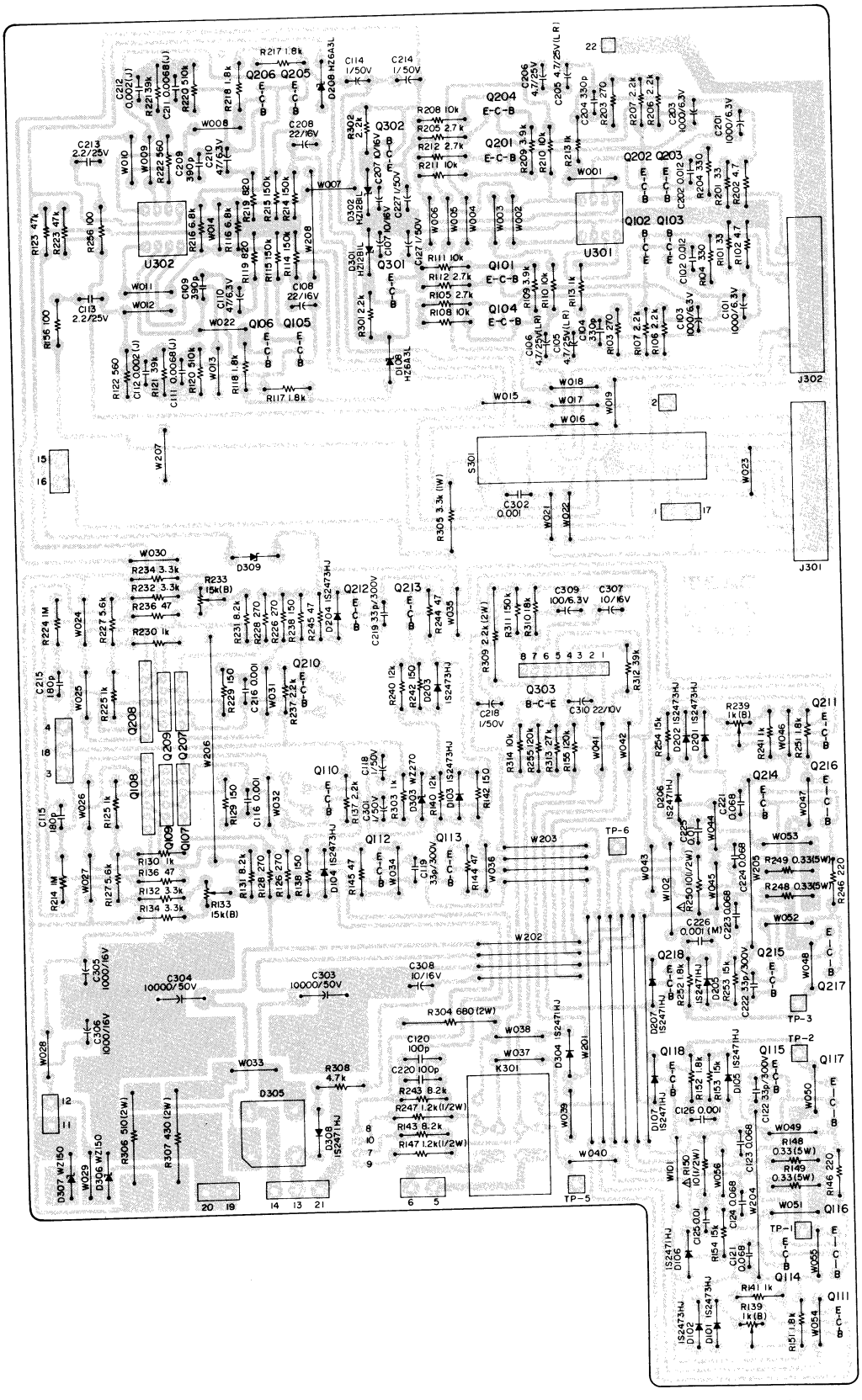

Parts marked with *require longer delivery time than regular parts.

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 5 - 1 | *5128102000 | Pin Jack, 4P (w/DIN) | |
| 5 - 2 | *5552438000 | Cover, Top | |
| 5 - 3 | *5552444000 | Panel, Rear | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| | *5552445000 | Panel, Rear | EUROPE, U.K., AUSTRALIA |
| 5 - 4 | *5553330000 | Heat Sink | |
| 5 - 5 | 5122399000 | Terminal, 4P Push | |
| 5 - 6 | *5534661000 | Strain Relief, AC Power Cord | U.K. |
| | *5534663000 | Strain Relief, AC Power Cord | AUSTRALIA |
| | *5534660000 | Strain Relief, AC Power Cord | All except U.K., AUSTRALIA |
| 5 - 7 | ⚠ 5128034000 | Cord, AC Power | JAPAN, GENERAL EXPORT |
| | ⚠ 5128075000 | Cord, AC Power | U.S.A., CANADA |
| | ⚠*5128018000 | Cord, AC Power | EUROPE |
| | ⚠*5128094000 | Cord, AC Power | EUROPE |
| | ⚠*5128047000 | Cord, AC Power | U.K. |
| | ⚠*5128031000 | Cord, AC Power | AUSTRALIA |
| 5 - 8 | ⚠ 5122397000 | Socket, AC Outlet | JAPAN, U.S.A., CANADA, GENERAL EXPORT |
| 5 - 9 | *5128103000 | Pin Jack, 4P | |
| 5 - 10 | *5045407100 | Terminal, GND | |

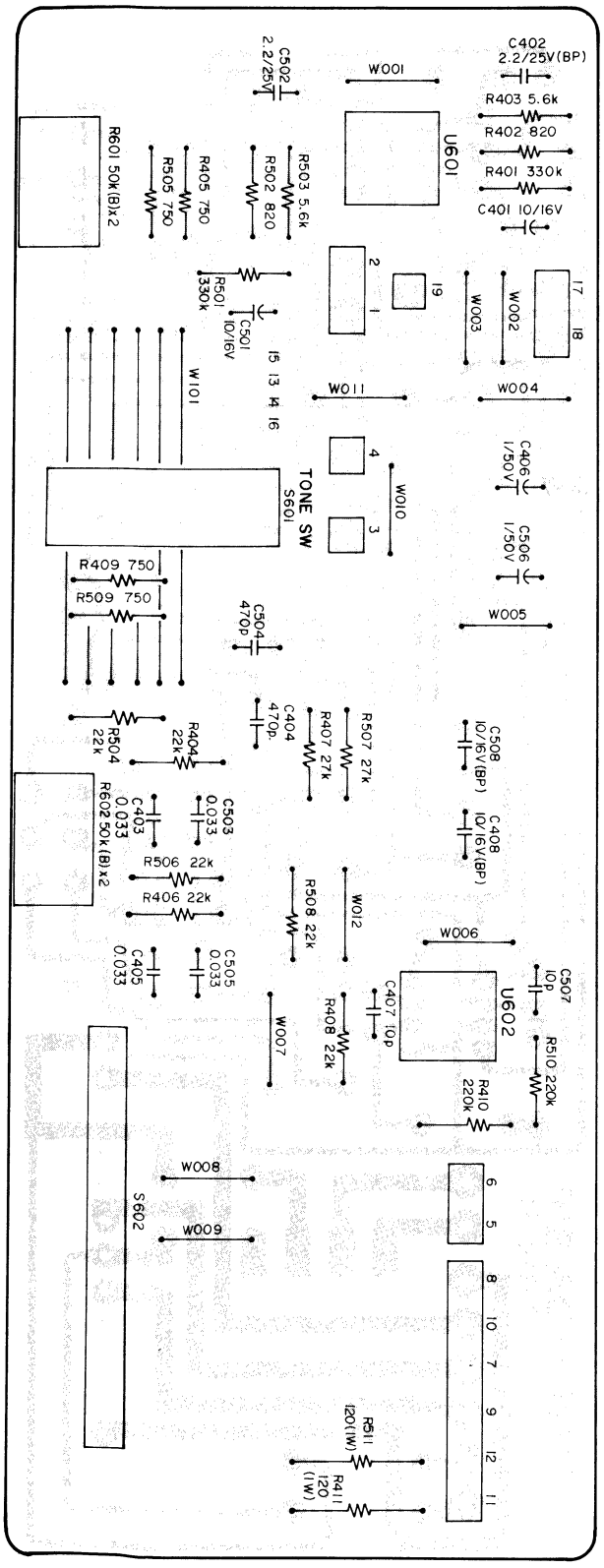
# 7 PC BOARDS AND PARTS LIST (BX-500)

**PC Boards shown viewed from foil side.**

## MAIN PCB ASSY

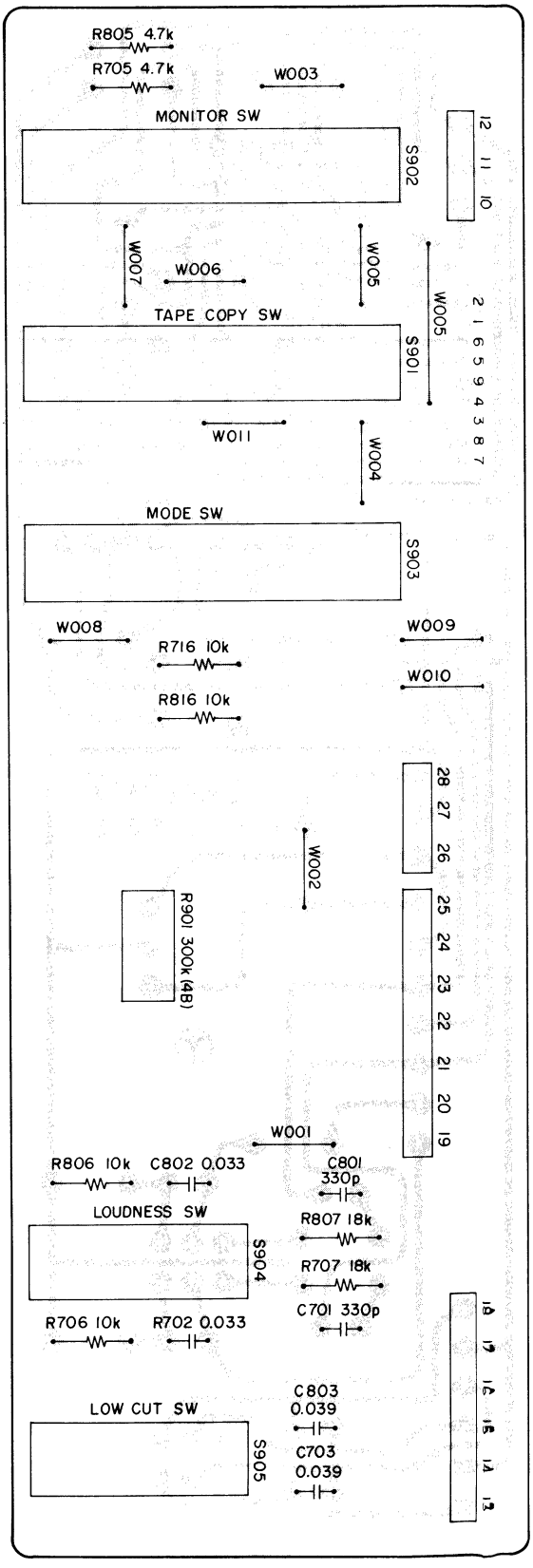


## TONE CON AMPL PCB ASSY



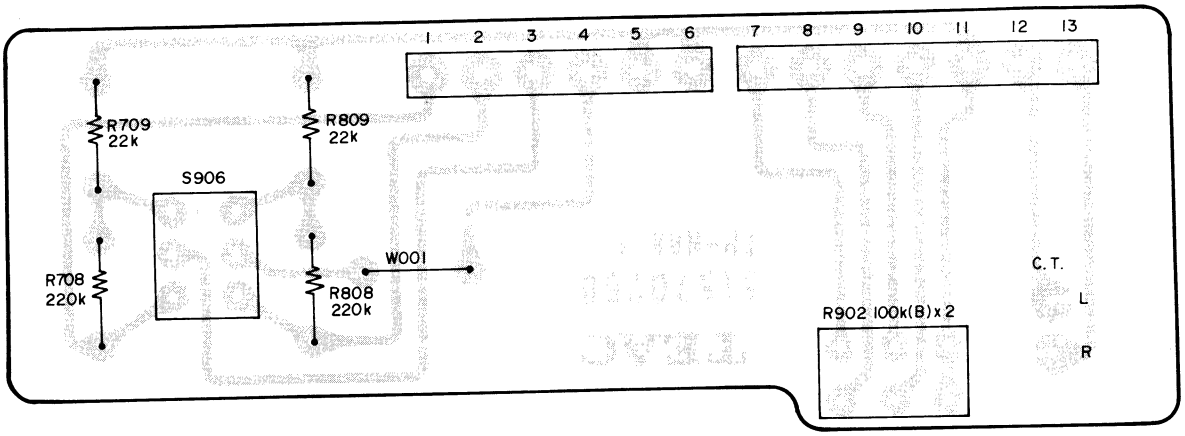

P-1014

## SW PCB ASSY



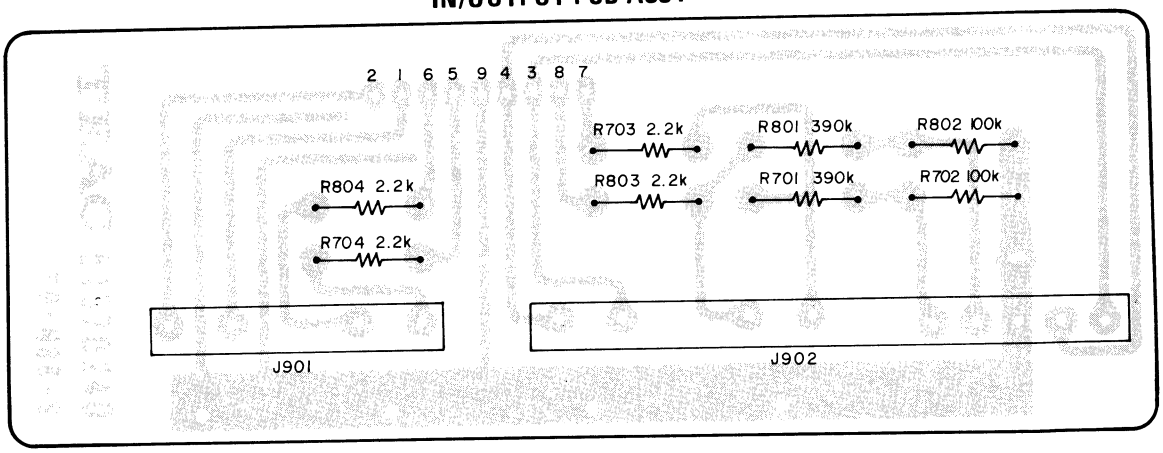

P-1015

## VOLUME PCB ASSY



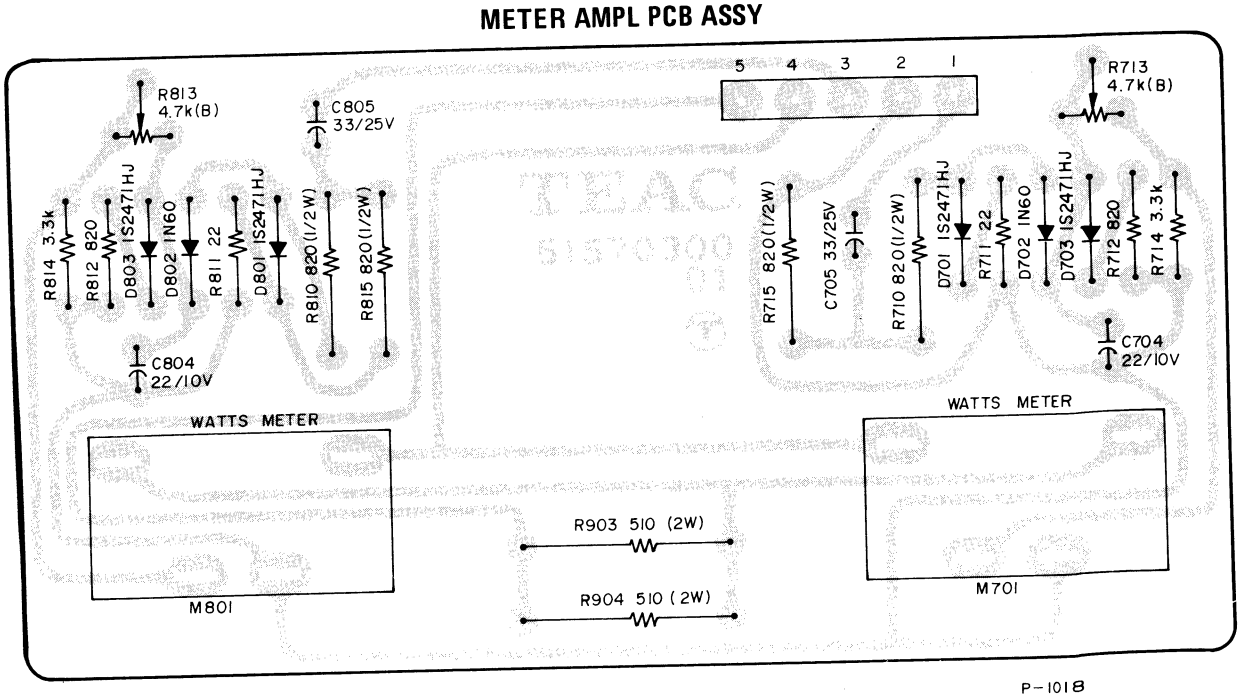

P-1016

## IN/OUTPUT PCB ASSY




P-1017

## METER AMPL PCB ASSY




P-1018

## MAIN PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | 5158029000 | PCB Assy |
| | 5157029000 | PCB |
| | **IC's** | |
| U301, U302 | 5147064000 | NJM4559DD |
| U303 | 5147065000 | HA12002 |
| | **TRANSISTORS** | |
| Q101, Q201 | 5145150000 | 2SA1015(GR) |
| Q102, Q202 | 5145163000 | 2SB737(S) |
| Q103, Q203 | 5145164000 | 2SD786(S) |
| Q104, Q204 | 5145151000 | 2SC1815(GR) |
| Q105, Q205 | 5145153000 | 2SC2240(GR) |
| Q106, Q206 | 5145153000 | 2SC2240(GR) |
| Q107, Q207 | 5145155000 | 2SA995(F) |
| Q108, Q208 | 5145156000 | 2SK109(C) |
| Q109, Q209 | 5145154000 | 2SC2259(F) |
| Q110, Q210 | 5145149000 | 2SA970(GR) |
| Q111, Q211 | 5145151000 | 2SC1815(GR) |
| Q112, Q212 | 5145166000 | 2SA949(Y) |
| Q113, Q213 | 5145167000 | 2SC2229(Y) |
| Q114, Q214 | 5145169000 | 2SC2235(Y) |
| Q115, Q215 | 5145168000 | 2SA965(Y) |
| Q116, Q216 | 5145171000 | 2SD718(O) |
| Q117, Q217 | 5145170000 | 2SB688(O) |
| Q118, Q218 | 5145153000 | 2SC2240(GR) |
| Q301 | 5145151000 | 2SC1815(GR) |
| Q302, Q303 | 5145150000 | 2SA1015(GR) |
| | **DIODES** | |
| D101～D104 | 5143118000 | 1S2473HJ |
| D105～D107 | 5143148000 | 1S2471HJ |
| D201～D204 | 5143118000 | 1S2473HJ |
| D205～D207 | 5143148000 | 1S2471HJ |
| D108, D208 | 5143144000 | HZ6A3L |
| D301, D302 | 5143311000 | HZ12B1L |
| D303 | 5143300000 | WZ270 |
| D304 | 5143148000 | 1S2471HJ |
| D305 | 5143309000 | 3D4B41 |
| D306, D307 | 5143285000 | WZ150 |
| D308 | 5143148000 | 1S2473HJ |
| D309 | 5143278000 | WZ100 |
| | **RESISTORS** | |
| | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type unless otherwise noted.** | |
| R101, R201 | 5181446000 | 33 ohm |
| R102, R202 | 5181426000 | 4.7 ohm |
| R103, R203 | 5181468000 | 270 ohm |
| R104, R204 | 5181470000 | 330 ohm |
| R105, R205 | 5181492000 | 2.7 k ohm |
| R106, R206 | 5181490000 | 2.2 k ohm |
| R107, R207 | 5181490000 | 2.2 k ohm |
| R108, R208 | 5181506000 | 10 k ohm |
| R109, R209 | 5181496000 | 3.9 k ohm |
| R110, R210 | 5181506000 | 10 k ohm |
| R111, R211 | 5181506000 | 10 k ohm |
| R112, R212 | 5181492000 | 2.7 k ohm |

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| R113, R213 | 5181482000 | 1 k ohm |
| R114, R214 | 5181534000 | 150 k ohm |
| R115, R215 | 5181534000 | 150 k ohm |
| R116, R216 | 5181502000 | 6.8 k ohm |
| R117, R217 | 5181488000 | 1.8 k ohm |
| R118, R218 | 5181488000 | 1.8 k ohm |
| R119, R219 | 5181480000 | 820 ohm |
| R120, R220 | 5181547000 | 510 k ohm |
| R121, R221 | 5181520000 | 39 k ohm |
| R122, R222 | 5181276000 | 560 ohm |
| R123, R223 | 5181522000 | 47 k ohm |
| R124, R224 | 5181554000 | 1 M ohm |
| R125, R225 | 5181482000 | 1 k ohm |
| R126, R226 | 5181468000 | 270 ohm |
| R127, R227 | 5181500000 | 5.6 k ohm |
| R128, R228 | 5181468000 | 270 ohm |
| R129, R229 | 5181462000 | 150 ohm |
| R130, R230 | 5181482000 | 1 k ohm |
| R131, R231 | 5181504000 | 8.2 k ohm |
| R132, R232 | 5181494000 | 3.3 k ohm |
| R134, R234 | 5181494000 | 3.3 k ohm |
| R136, R236 | 5181450000 | 47 ohm |
| R137, R237 | 5181490000 | 2.2 k ohm |
| R138, R238 | 5181462000 | 150 ohm |
| R140, R240 | 5181508000 | 12 k ohm |
| R141, R241 | 5181482000 | 1 k ohm |
| R142, R242 | 5181462000 | 150 ohm |
| R143, R243 | 5185544000 | 8.2 k ohm Metal Film |
| R144, R244 | 5181450000 | 47 ohm |
| R145, R245 | 5181450000 | 47 ohm |
| R146, R246 | 5181466000 | 220 ohm |
| R147, R247 | 5185354000 | 1.2 k ohm ½W Metal Film |
| R148, R248 | ⚠5185201000 | 0.33 ohm Metal Plate Non Flammable |
| R149, R249 | ⚠5185201000 | 0.33 ohm Metal Plate Non Flammable |
| R150, R250 | ⚠5185664000 | 10 ohm ½W Non Flammable |
| R151, R251 | 5181488000 | 1.8 k ohm |
| R152, R252 | 5181488000 | 1.8 k ohm |
| R153, R253 | 5181510000 | 15 k ohm |
| R154, R254 | 5181510000 | 15 k ohm |
| R155, R255 | 5181532000 | 120 k ohm |
| R156, R256 | 5181458000 | 100 ohm |
| R301 | 5181490000 | 2.2 k ohm |
| R302 | 5181490000 | 2.2 k ohm |
| R303 | 5181482000 | 1 k ohm |
| R304 | 5184811000 | 680 ohm 2W Metal Film |
| R305 | 5185802000 | 3.3 k ohm 1W Metal Film |
| R306 | ⚠5184808000 | 510 ohm 2W Metal Film Non Flammable |
| R307 | ⚠5184806000 | 430 ohm 2W Metal Film Non Flammable |
| R308 | 5181498000 | 4.7 k ohm |
| R309 | 5185616000 | 2.2 k ohm 2W Metal Film |
| R310 | 5181512000 | 18 k ohm |
| R311 | 5181534000 | 150 k ohm |
| R312 | 5181520000 | 39 k ohm |
| R313 | 5181516000 | 27 k ohm |
| R314 | 5181506000 | 10 k ohm |

| REF. NO. | PARTS NO. | DESCRIPTION | | |
|---|---|---|---|---|
| | | **CAPACITORS** | | |
| C101, C201 | 5172968000 | Elec. | 1000 mfd | 6.3V |
| C102, C202 | 5171882000 | Mylar | 0.012 mfd | |
| C103, C203 | 5172968000 | Elec. | 1000 mfd | 6.3V |
| C104, C204 | 5172612000 | Polyst. | 330 pfd | |
| C105, C205 | 5171563000 | Elec. | 4.7 mfd | 25V (LR) |
| C106, C206 | 5171563000 | Elec. | 4.7 mfd | 25V (LR) |
| C107, C207 | 5173140000 | Elec. | 10 mfd | 16V |
| C108, C208 | 5173156000 | Elec. | 22 mfd | 16V |
| C109, C209 | 5172614000 | Polyst. | 390 pfd | |
| C110, C210 | 5173178000 | Elec. | 47 mfd | 6.3V |
| C111, C211 | 5170372000 | Mylar | 0.0068 mfd | |
| C112, C212 | 5170359000 | Mylar | 0.002 mfd | |
| C113, C213 | 5171402000 | Elec. | 2.2 mfd | 25V (BP) |
| C114, C214 | 5173104000 | Elec. | 1 mfd | 50V |
| C115, C215 | 5172606000 | Polyst. | 180 pfd | |
| C116, C216 | 5170376000 | Mylar | 0.001 mfd | |
| C118, C218 | 5173104000 | Elec. | 1 mfd | 50V |
| C119, C219 | 5173219500 | Dip. Mica | 33 pfd | 300V |
| C120, C220 | 5054744000 | Dip. Mica | 100 pfd | |
| C121, C221 | 5171900000 | Mylar | 0.068 mfd | |
| C122, C222 | 5173219500 | Dip. Mica | 33 pfd | 300V |
| C123, C223 | 5171900000 | Mylar | 0.068 mfd | |
| C124, C224 | 5171900000 | Mylar | 0.068 mfd | |
| C125, C225 | 5171880000 | Mylar | 0.01 mfd | |
| C126, C226 | 5170376000 | Mylar | 0.001 mfd | |
| C127, C227 | 5173104000 | Elec. | 1 mfd | 50V |
| C301 | 5173104000 | Elec. | 1 mfd | 50V |
| C302 | 5170376000 | Mylar | 0.001 mfd | |
| C303, C304 | 5171611000 | Elec. | 10000 mfd | 50V |
| C305, C306 | 5172970000 | Elec. | 1000 mfd | 16V |
| C307, C308 | 5173140000 | Elec. | 10 mfd | 16V |
| C309 | 5173190000 | Elec. | 100 mfd | 6.3V |
| C310 | 5173154000 | Elec. | 22 mfd | 10V |
| | | **VARIABLE RESISTORS** | | |
| R133, R233 | 5053354000 | Semi-fixed | 15 k ohm | |
| R139, R239 | 5053350000 | Semi-fixed | 1 k ohm | |
| | | **MISCELLANEOUS** | | |
| K301 | 5061151000 | Relay, Power | | |
| J301, J302 | 5128103000 | Pin Jack, 4P | | |
| | 5555788000 | Cover, Transistor | | |
| S301 | 5138014000 | Switch, Operation | | |
| S301 | 5138017000 | Switch, Wire | | |
| S301 | 5138016000 | Switch, Slide | | |
| | 5122423000 | Lapping Terminal | WD-1 | |
| | 5122424000 | Lapping Terminal | WD-2 | |
| | 5122475000 | Lapping Terminal | WF-3 | |
| | 5122474000 | Lapping Terminal | WF-2 | |
| | 5122485000 | Lapping Terminal | WF-1 | |

## TONE CON AMPL PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION | | | |
|---|---|---|---|---|---|
| | 5158027000 | PCB Assy | | | |
| | 5157027000 | PCB | | | |
| | | **IC's** | | | |
| U601, U602 | 5147064000 | NJM4559DD | | | |
| | | **RESISTORS** | | | |
| | | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type unless otherwise noted.** | | | |
| R401, R501 | 5181542000 | 330 k ohm | | | |
| R402, R502 | 5181480000 | 820 ohm | | | |
| R403, R503 | 5181500000 | 5.6 k ohm | | | |
| R404, R504 | 5181514000 | 22 k ohm | | | |
| R405, R505 | 5181479000 | 750 ohm | | | |
| R406, R506 | 5181514000 | 22 k ohm | | | |
| R407, R507 | 5181516000 | 27 k ohm | | | |
| R408, R508 | 5181514000 | 22 k ohm | | | |
| R409, R509 | 5181479000 | 750 ohm | | | |
| R410, R510 | 5181538000 | 220 k ohm | | | |
| R411, R511 | 5184757000 | 120 ohm | 1W | Metal Film | |
| | | **CAPACITORS** | | | |
| C401, C501 | 5173140000 | Elec. | 10 mfd | 16V | |
| C402, C502 | 5171402000 | Elec. | 2.2 mfd | 25V (BP) | |
| C403, C503 | 5171892000 | Mylar | 0.033 mfd | | |
| C404, C504 | 5172616000 | Polyst. | 470 pfd | | |
| C405, C505 | 5171892000 | Mylar | 0.033 mfd | | |
| C406, C506 | 5173104000 | Elec. | 1 mfd | 50V | |
| C407, C507 | 5054740000 | Dip. Mica | 10 pfd | | |
| C408, C508 | 5171412000 | Elec. | 10 mfd | 16V (BP) | |
| | | **MISCELLANEOUS** | | | |
| R601, R602 | 5150251000 | Resistor, Variable | 50 k ohm-B x 2 | | |
| S601 | 5132048000 | Switch, Lever | | | |
| S602 | 5133016000 | Switch, Rotary | | | |
| | 5122423000 | Lapping Terminal | WD-1 | | |
| | 5122424000 | Lapping Terminal | WD-2 | | |
| | 5122428000 | Lapping Terminal | WD-6 | | |

## SW PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | 5158025000 | PCB Assy |
| | 5157025000 | PCB |
| | **RESISTORS** | |
| | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type.** | |
| R705, R805 | 5181298000 | 4.7 k ohm |
| R706, R806 | 5181306000 | 10 k ohm |
| R707, R807 | 5181312000 | 18 k ohm |
| R716, R816 | 5181306000 | 10 k ohm |
| | **CAPACITORS** | |
| C701, C801 | 5172492000 | Polyst. 330 pfd |
| C702, C802 | 5054824000 | Mylar 0.033 mfd |
| C703, C803 | 5054863000 | Mylar 0.039 mfd |
| | **MISCELLANEOUS** | |
| R901 | 5150249000 | Resistor, Variable 300 k ohm |
| S901 | 5132054000 | Switch, Lever |
| S902 | 5132055000 | Switch, Lever |
| S903 | 5132050000 | Switch, Lever |
| S904, S905 | 5132051000 | Switch, Lever |
| | 5122425000 | Lapping Terminal WD-3 |
| | 5122428000 | Lapping Terminal WD-6 |
| | 5122429000 | Lapping Terminal WD-7 |

## VOLUME PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | 5158026000 | PCB Assy |
| | 5157026000 | PCB |
| | **RESISTORS** | |
| | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type.** | |
| R708, R808 | 5181538000 | 220 k ohm |
| R709, R809 | 5181514000 | 22 k ohm |
| | **MISCELLANEOUS** | |
| R902 | 5150250000 | Resistor, Variable 100 k ohm-B |
| S906 | 5134113000 | Switch, Push |
| | 5122441000 | Lapping Terminal WU-6 |
| | 5122440000 | Lapping Terminal WU-7 |

## IN/OUTPUT PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | 5158024000 | PCB Assy |
| | 5157024000 | PCB |
| | **RESISTORS** | |
| | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type.** | |
| R701, R801 | 5181544000 | 390 k ohm |
| R702, R802 | 5181530000 | 100 k ohm |
| R703, R803 | 5181490000 | 2.2 k ohm |
| R704, R804 | 5181490000 | 2.2 k ohm |
| | **MISCELLANEOUS** | |
| J901 | 5128103000 | Pin Jack, 4P |
| J902 | 5128102000 | Pin Jack, 4P (w/DIN) |

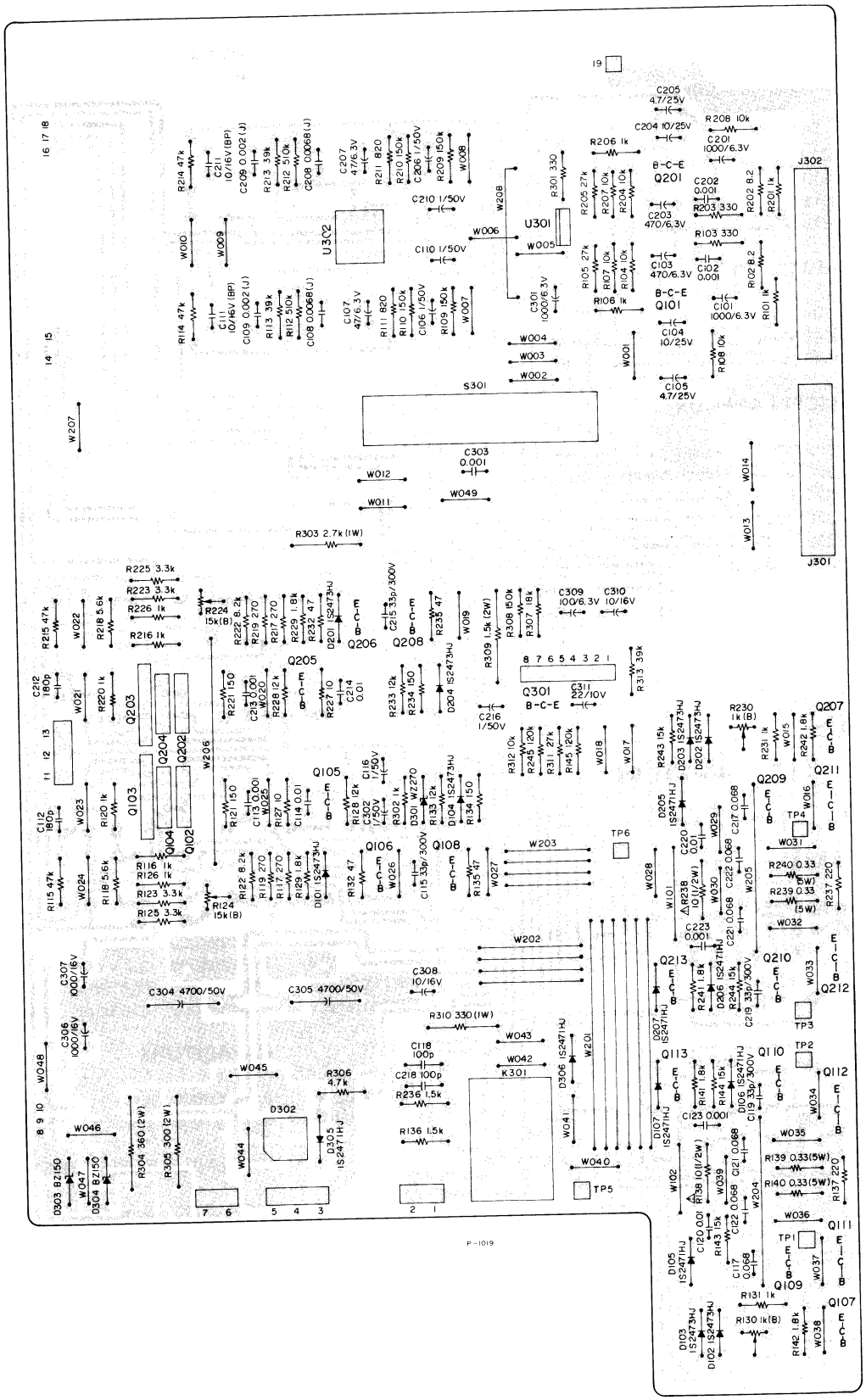
## METER AMPL PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | 5158030001 | PCB Assy |
| | 5157030001 | PCB |
| | **DIODES** | |
| D701, D801 | 5143148000 | 1S2471HJ |
| D702, D802 | 5042213000 | 1N60 |
| D703, D803 | 5143148000 | 1S2471HJ |
| D704, D705 | 5042519000 | WZ075 |
| | **RESISTORS** | |
| | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type.** | |
| R710, R810 | 5180080000 | 820 ohm ½W |
| R711, R811 | 5181242000 | 22 ohm |
| R712, R812 | 5181280000 | 820 ohm |
| R714, R814 | 5181294000 | 3.3 k ohm |
| R715, R815 | 5180080000 | 820 ohm ½W |
| R903, R904 | 5184808000 | 510 ohm 2W |
| | **CAPACITORS** | |
| C704, C804 | 5172907000 | Elec. 22 mfd 10V |
| C705, C805 | 5172917000 | Elec. 33 mfd 25V |
| | **VARIABLE RESISTORS** | |
| R713, R813 | 5150127000 | Semi-fixed 4.7 k ohm |
| | **MISCELLANEOUS** | |
| M701, M801 | 5165066000 | Meter, Power Output |
| | 5296000200 | Meter, Power Output (BX-500B) |
| | 5555996000 | Meter Scale, Meter |
| | 5122439000 | Lapping Terminal WU-5 |

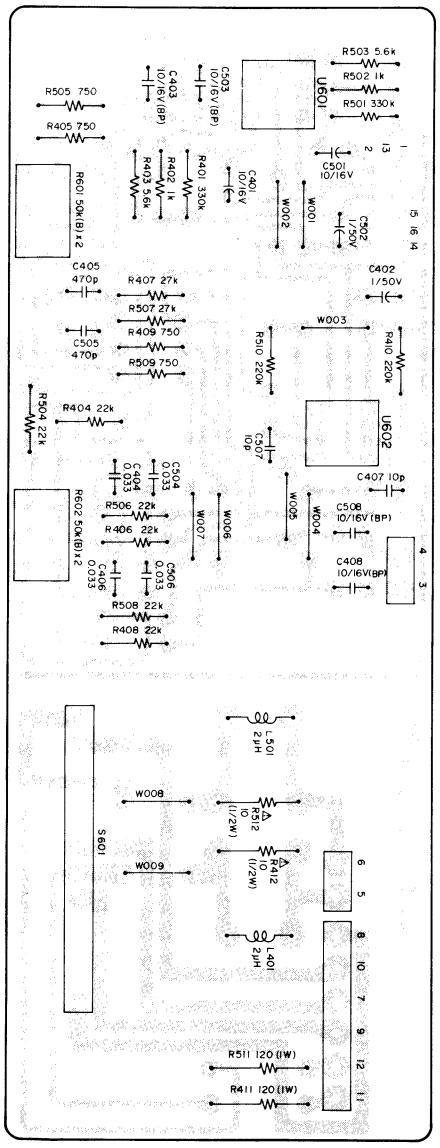
# 8 PC BOARDS AND PARTS LIST (BX-300)

**PC Boards shown viewed from foil side.**

## MAIN PCB ASSY

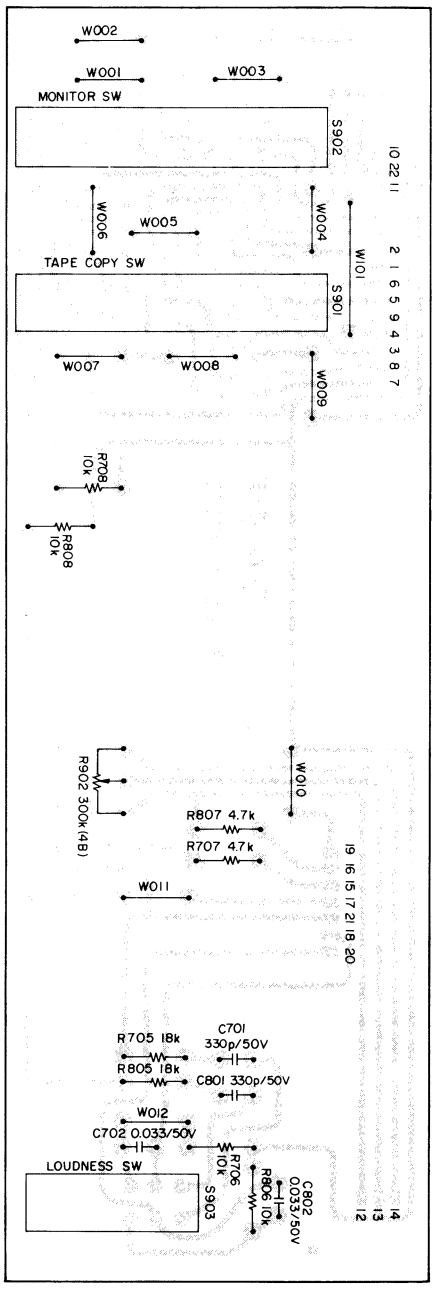


## TONE CON AMPL PCB ASSY



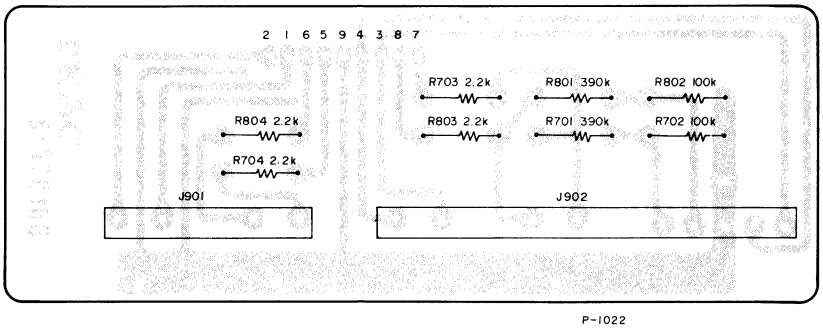

P-1020

## SW PCB ASSY




P-1021

## IN/OUTPUT PCB ASSY




P-1022

## MAIN PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | 5158020000 | Main PCB Assy |
| | 5157020000 | Main PCB |
| | **IC's** | |
| U301 | 5147066000 | μPC78L08 |
| U302 | 5147064000 | NJM4559DD |
| U303 | 5147065000 | HA12002 |
| | **TRANSISTORS** | |
| Q101, Q201 | 5145164000 | 2SD786(S) |
| Q102, Q202 | 5145155000 | 2SA995(F) |
| Q103, Q203 | 5145156000 | 2SK109(C) |
| Q104, Q204 | 5145154000 | 2SC2259(F) |
| Q105, Q205 | 5145149000 | 2SA970(GR) |
| Q106, Q206 | 5145175000 | 2SB646A(C) |
| Q107, Q207 | 5145151000 | 2SC1815(GR) |
| Q108, Q208 | 5145176000 | 2SD666A(C) |
| Q109, Q209 | 5145174000 | 2SD667A(C) |
| Q110, Q210 | 5145173000 | 2SB647A(C) |
| Q111, Q211 | 5145165000 | 2SD716(O) |
| Q112, Q212 | 5145172000 | 2SB686(O) |
| Q113, Q213 | 5145153000 | 2SC2240(GR) |
| Q301 | 5145150000 | 2SA1015(GR) |
| | **DIODES** | |
| D101～D104 | 5143118000 | 1S2473HJ |
| D105～D107 | 5143148000 | 1S2471HJ |
| D201～D204 | 5143118000 | 1S2473HJ |
| D205～D207 | 5143148000 | 1S2471HJ |
| D301 | 5143300000 | WZ270 |
| D302 | 5143310000 | 1D4B1 |
| D303, D304 | 5143312000 | BZ150 |
| D305, D306 | 5143148000 | 1S2471HJ |

### RESISTORS

**All resistors are rated ±5% tolerance, ¼ watt and of carbon type unless otherwise noted.**

| | | |
|---|---|---|
| R101, R201 | 5181482000 | 1 k ohm |
| R102, R202 | 5181432000 | 8.2 ohm |
| R103, R203 | 5181470000 | 330 ohm |
| R104, R204 | 5181506000 | 10 k ohm |
| R105, R205 | 5181516000 | 27 k ohm |
| R106, R206 | 5181482000 | 1 k ohm |
| R107, R207 | 5181506000 | 10 k ohm |
| R108, R208 | 5181506000 | 10 k ohm |
| R109, R209 | 5181534000 | 150 k ohm |
| R110, R210 | 5181534000 | 150 k ohm |
| R111, R211 | 5181480000 | 820 ohm |
| R112, R212 | 5181547000 | 510 k ohm |
| R113, R213 | 5181520000 | 39 k ohm |
| R114, R214 | 5181522000 | 47 k ohm |
| R115, R215 | 5181522000 | 47 k ohm |
| R116, R216 | 5181482000 | 1 k ohm |
| R117, R217 | 5181468000 | 270 ohm |
| R118, R218 | 5181500000 | 5.6 k ohm |
| R119, R219 | 5181468000 | 270 ohm |
| R120, R220 | 5181482000 | 1 k ohm |
| R121, R221 | 5181462000 | 150 ohm |
| R122, R222 | 5181504000 | 8.2 k ohm |
| R123, R223 | 5181494000 | 3.3 k ohm |
| R125, R225 | 5181494000 | 3.3 k ohm |
| R126, R226 | 5181456000 | 82 ohm |
| R127, R227 | 5181434000 | 10 ohm |
| R128, R228 | 5181508000 | 12 k ohm |
| R129, R229 | 5181488000 | 1.8 k ohm |
| R131, R231 | 5181482000 | 1 k ohm |
| R132, R232 | 5181450000 | 47 ohm |
| R133, R233 | 5181508000 | 12 k ohm |
| R134, R234 | 5181462000 | 150 ohm |
| R135, R235 | 5181450000 | 47 ohm |
| R136, R236 | 5185526000 | 1.5 k ohm Metal Film |
| R137, R237 | 5181466000 | 220 ohm |
| R138, R238 | ⚠5185664000 | 10 ohm ½W Non Flammable |
| R139, R239 | ⚠5185201000 | 0.33 ohm 5W Metal Film Non Flammable |
| R140, R240 | ⚠5185201000 | 0.33 ohm 5W Metal Film Non Flammable |
| R141, R241 | 5181488000 | 1.8 k ohm |
| R142, R242 | 5181488000 | 1.8 k ohm |
| R143, R243 | 5181510000 | 15 k ohm |
| R144, R244 | 5181510000 | 15 k ohm |
| R145, R245 | 5181532000 | 120 k ohm |
| R301 | 5181470000 | 330 ohm |
| R302 | 5181482000 | 1 k ohm |
| R303 | 5185800000 | 2.7 k ohm 1W Metal Film |
| R304 | ⚠5184804000 | 360 ohm 2W Metal Film Non Flammable |
| R305 | ⚠5184802000 | 300 ohm 2W Metal Film Non Flammable |
| R306 | 5181498000 | 4.7 k ohm |
| R307 | 5181512000 | 18 k ohm |
| R308 | 5181534000 | 150 k ohm |
| R309 | 5185612000 | 1.5 k ohm 2W Metal Film |
| R310 | 5184767000 | 330 ohm 1W Metal Film |
| R311 | 5181516000 | 27 k ohm |
| R312 | 5181506000 | 10 k ohm |
| R313 | 5181520000 | 39 k ohm |

### CAPACITORS

| | | | | |
|---|---|---|---|---|
| C101, C201 | 5172968000 | Elec. | 1000 mfd | 6.3V |
| C102, C202 | 5170376000 | Mylar | 0.001 mfd | |
| C103, C203 | 5172959000 | Elec. | 470 mfd | 6.3V |
| C104, C204 | 5173142000 | Elec. | 10 mfd | 25V |
| C105, C205 | 5173128000 | Elec. | 4.7 mfd | 25V |
| C106, C206 | 5173104000 | Elec. | 1 mfd | 50V |
| C107, C207 | 5173178000 | Elec. | 47 mfd | 6.3V |
| C108, C208 | 5170372000 | Mylar | 0.0068 mfd | |
| C109, C209 | 5170359000 | Mylar | 0.002 mfd | |
| C110, C210 | 5173104000 | Elec. | 1 mfd | 50V |
| C111, C211 | 5171412000 | Elec. | 10 mfd | 16V (BP) |
| C112, C212 | 5172606000 | Polyst. | 180 pfd | |
| C113, C213 | 5170376000 | Mylar | 0.001 mfd | |
| C114, C214 | 5171880000 | Mylar | 0.01 mfd | |
| C115, C215 | 5173219500 | Dip. Mica | 33 pfd | 300V |
| C116, C216 | 5173104000 | Elec. | 1 mfd | 50V |
| C117, C217 | 5171900000 | Mylar | 0.068 mfd | |
| C118, C218 | 5054744000 | Dip. Mica | 100 pfd | |
| C119, C219 | 5173219500 | Dip. Mica | 33 pfd | 300V |
| C120, C220 | 5171880000 | Mylar | 0.01 mfd | |
| C121, C221 | 5171900000 | Mylar | 0.068 mfd | |

| REF. NO. | PARTS NO. | DESCRIPTION | | |
|---|---|---|---|---|
| C122, C222 | 5171900000 | Mylar | 0.068 mfd | |
| C123, C223 | 5170376000 | Mylar | 0.001 mfd | |
| C301 | 5172968000 | Elec. | 1000 mfd | 6.3V |
| C302 | 5172882000 | Elec. | 1 mfd | 50V |
| C303 | 5170376000 | Mylar | 0.001 mfd | |
| C304, C305 | 5171464000 | Elec. | 4700 mfd | 50V |
| C306, C307 | 5172970000 | Elec. | 1000 mfd | 16V |
| C308 | 5173140000 | Elec. | 10 mfd | 16V |
| C309 | 5173190000 | Elec. | 100 mfd | 6.3V |
| C310 | 5173140000 | Elec. | 10 mfd | 16V |
| C311 | 5173154000 | Elec. | 22 mfd | 10V |
| | **VARIABLE RESISTORS** | | | |
| R124, R224 | 5053354000 | Semi-fixed | 1.5 k ohm-B | |
| R130, R230 | 5053350000 | Semi-fixed | 1 k ohm-B | |
| | **MISCELLANEOUS** | | | |
| K301 | 5061151000 | Relay, Power | | |
| J301, J302 | 5128103000 | Pin Jack, 4P | | |
| S301 | 5138014000 | Switch, Operation | | |
| S301 | 5138017000 | Switch, Wire | | |
| S301 | 5138016000 | Switch, Slide | | |
| | 5122423000 | Lapping Terminal | WD-1 | |
| | 5122424000 | Lapping Terminal | WD-2 | |
| | 5122475000 | Lapping Terminal | WF-3 | |
| | 5122474000 | Lapping Terminal | WF-2 | |
| | 5122485000 | Lapping Terminal | WF-1 | |

## TONE CON AMPL PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION | | | |
|---|---|---|---|---|---|
| | 5158019000 | PCB Assy | | | |
| | 5157019000 | PCB | | | |
| | **IC's** | | | | |
| U601, U602 | 5147064000 | NJM4559DD | | | |
| | **RESISTORS** | | | | |
| | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type unless otherwise noted.** | | | | |
| R401, R501 | 5181542000 | 330 k ohm | | | |
| R402, R502 | 5181482000 | 1 k ohm | | | |
| R403, R503 | 5181500000 | 5.6 k ohm | | | |
| R404, R504 | 5181514000 | 22 k ohm | | | |
| R405, R505 | 5181479000 | 750 ohm | | | |
| R406, R506 | 5181514000 | 22 k ohm | | | |
| R407, R507 | 5181516000 | 27 k ohm | | | |
| R408, R508 | 5181514000 | 22 k ohm | | | |
| R409, R509 | 5181479000 | 750 ohm | | | |
| R410, R510 | 5181538000 | 220 k ohm | | | |
| R411, R511 | 5184757000 | 120 ohm | 1W | Metal Film | |
| R412, R512 | ⚠5185664000 | 10 ohm | ½W | Non Flammable | |
| | **CAPACITORS** | | | | |
| C401, C501 | 5173140000 | Elec. | 10 mfd | 16V | |
| C402, C502 | 5173104000 | Elec. | 1 mfd | 50V | |
| C403, C503 | 5171412000 | Elec. | 10 mfd | 16V (BP) | |
| C404, C504 | 5171892000 | Mylar | 0.033 mfd | | |
| C405, C505 | 5172616000 | Polyst. | 470 pfd | | |
| C406, C506 | 5171892000 | Mylar | 0.033 mfd | | |
| C407, C507 | 5054382000 | Dip. Mica | 22 pfd | | |
| C408, C508 | 5171412000 | Elec. | 10 mfd | 16V (BP) | |
| | **MISCELLANEOUS** | | | | |
| L401, L501 | 5160050000 | Coil, 2 μH | | | |
| R601, R602 | 5150251000 | Resistor, Variable | 50 k ohm-B x 2 | | |
| S601 | 5133016000 | Switch, Rotary | | | |
| | 5122424000 | Lapping Terminal | WD-2 | | |
| | 512248000 | Lapping Terminal | WD-6 | | |

## SW PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | 5158017000 | PCB Assy |
| | 5157017000 | PCB |
| | **RESISTORS** | |
| | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type.** | |
| R705, R805 | 5181312000 | 18 k ohm |
| R706, R806 | 5181306000 | 10 k ohm |
| R707, R807 | 5181298000 | 4.7 k ohm |
| R708, R808 | 5181310000 | 15 k ohm |
| | **CAPACITORS** | |
| C701, C801 | 5172492000 | Polyst. 330 pfd |
| C702, C802 | 5054824000 | Mylar 0.033 mfd |
| | **MISCELLANEOUS** | |
| R902 | 5150249000 | Resistor, Variable 300 k ohm |
| S901 | 5132054000 | Switch, lever |
| S902 | 5132055000 | Switch, lever |
| S903 | 5132051000 | Switch, lever |

## IN/OUTPUT PCB ASSY

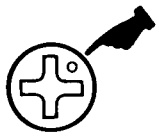
| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | 5158016000 | PCB Assy |
| | 5157016000 | PCB |
| | **RESISTORS** | |
| | **All resistors are rated ±5% tolerance, ¼ watt and of carbon type.** | |
| R701, R801 | 5181544000 | 390 k ohm |
| R702, R802 | 5181530000 | 100 k ohm |
| R703, R803 | 5181490000 | 2.2 k ohm |
| R704, R804 | 5181490000 | 2.2 k ohm |
| | **MISCELLANEOUS** | |
| J901 | 5128103000 | Pin Jack, 4P |
| J902 | 5128102000 | Pin Jack, 4P (w/DIN) |

## INCLUDED ACCESSORIES

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| | 5101704000 | BX-500 Owner's Manual | JAPAN |
| | 5101705000 | BX-500 Owner's Manual | U.S.A., CANADA |
| | 5101706000 | BX-500 Owner's Manual | All except JAPAN, U.S.A., CANADA |
| | 5101701000 | BX-300 Owner's Manual | JAPAN |
| | 5101702000 | BX-300 Owner's Manual | U.S.A., CANADA |
| | 5101703000 | BX-300 Owner's Manual | All except JAPAN, U.S.A., CANADA |
| | 5124047000 | Plug, Shoot Pin | |

## ASSEMBLING HARDWARE CODING LIST

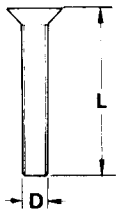
All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted. ISO screws have the head inscribed with a point as in the figure to the right.



*FOR EXAMPLE:*

B M 3 x 6

- Length in mm (L)
- Diameter in mm (D) *
- Metric System
- Nomenclature

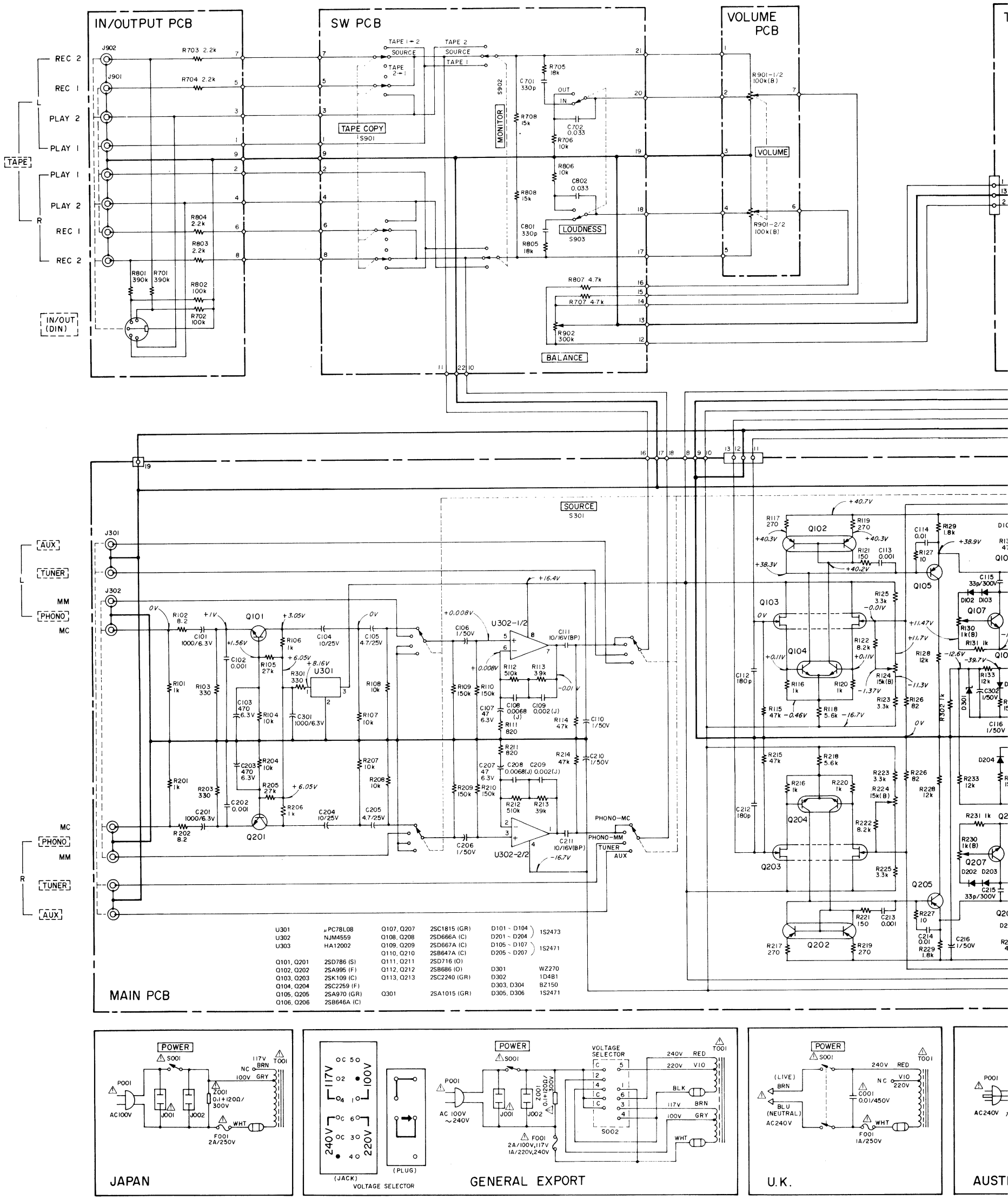


* Inner dia. for washers and nuts

| | Code | Name | Type |
|---|---|---|---|
| MACHINE SCREW | **R** | Round Head Screw | |
| | **P** | Pan Head Screw | |
| | **T** | Stove Head Screw (Truss) | |
| | **B** | Binding Head Screw | |
| | **F** | Flat Countersunk Head Screw | |
| | **O** | Oval Countersunk Head Screw | |
| WOOD SCREW | **RW** | Round Head Wood Screw | |
| TAPTITE SCREW | **PTT** | Pan Head Taptite Screw | |
| | **WTT** | Washer Head Taptite Screw | |
| SEMS SCREW | **BSA** | Binding Head SEMS Screw(A Type) | |
| | **BSB** | Binding Head SEMS Screw(B Type) | |
| | **BSF** | Binding Head SEMS Screw(F Type) | |
| | **PSA** | Pan Head SEMS Screw(A Type) | |
| | **PSB** | Pan Head SEMS Screw(B Type) | |

| | Code | Name | Type |
|---|---|---|---|
| TAPPING SCREW | **BTA** | Binding Head Tapping Screw(A Type) | |
| | **BTB** | Binding Head Tapping Screw(B Type) | |
| | **RTA** | Round Head Tapping Screw(A Type) | |
| | **RTB** | Round Head Tapping Screw(B Type) | |
| SETSCREW | **SF** | Hex Socket Setscrew(Flat Point) | |
| | **SC** | Hex Socket Setscrew(Cup Point) | |
| | **SS** | Slotted Socket Setscrew(Flat Point) | |
| WASHER | **E** | E-Ring (Retaining Washer) | |
| | **W** | Flat Washer (Plain) | |
| | **SW** | Lock Washer (Spring) | |
| | **LWI** | Lock Washer (Internal Teeth) | |
| | **LWE** | Lock Washer (External Teeth) | |
| | **TW** | Trim Washer (Countersunk) | |
| NUT | **N** | Hex Nut | |

# TEAC SCHEMATIC DIAGRAM BX-300









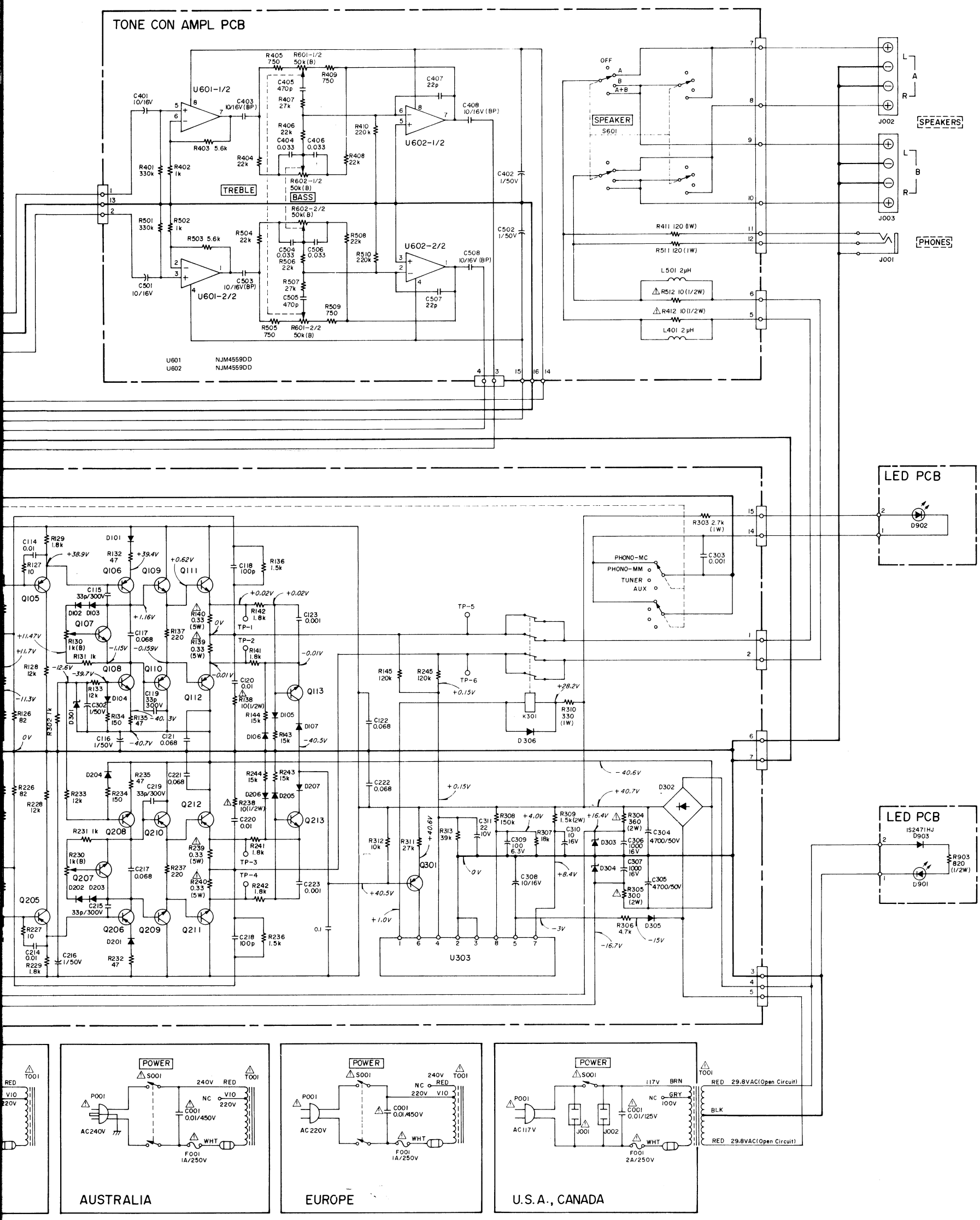







**NOTES**

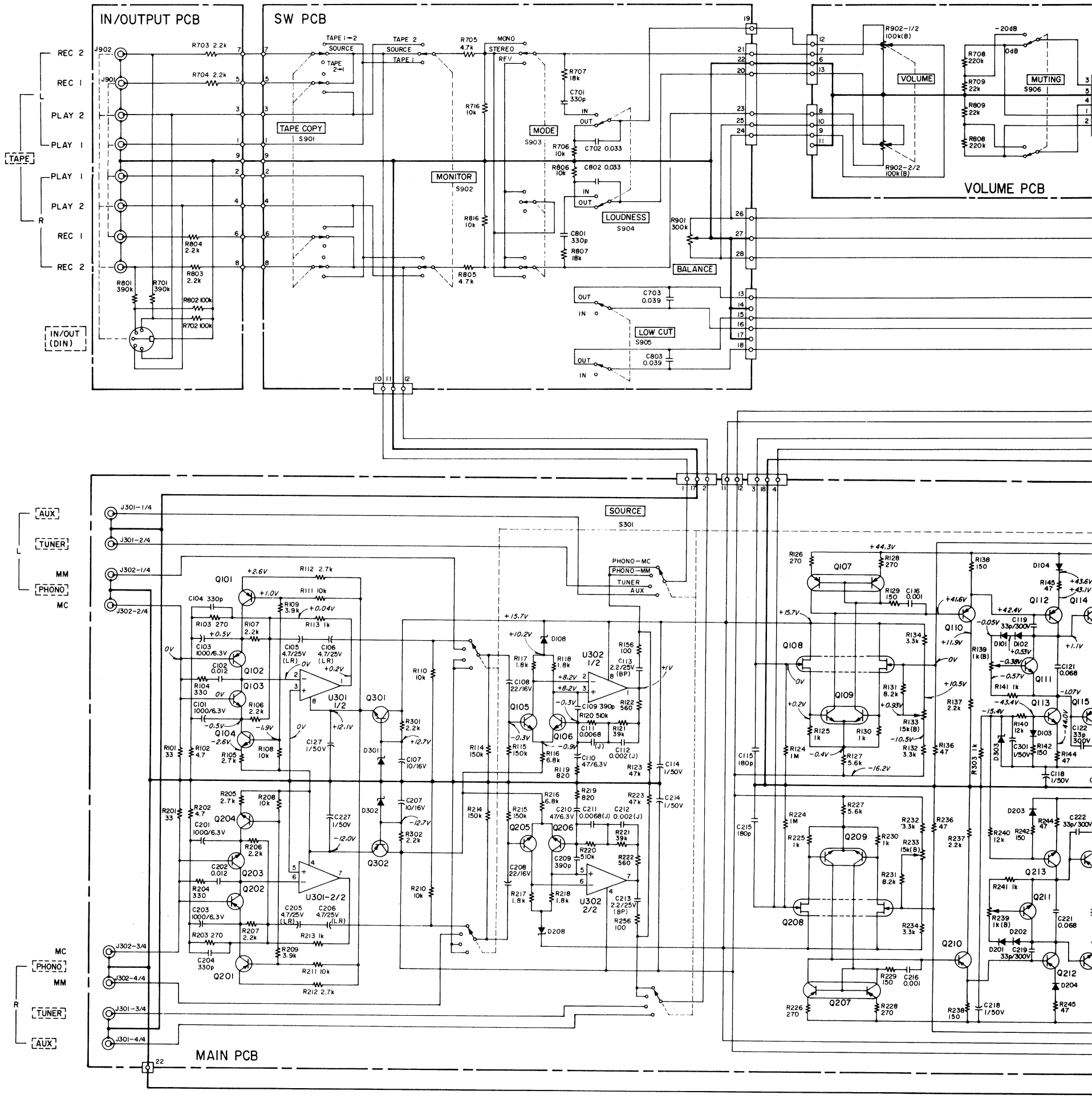
1. ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (k = 1,000 OHMS, M = 1,000,000 OHMS).
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p = PICOFARADS).
3. DC VOLTAGES MEASURED WITH NO SIGNAL INPUT.
4. ⚠PARTS MARKED WITH THIS SIGN ARE SAFETY CRITICAL COMPONENTS. THEY MUST ALWAYS BE REPLACED WITH IDENTICAL COMPONENTS - REFER TO THE TEAC PARTS LIST AND ENSURE EXACT REPLACEMENT.




# DC Integrated Amplifier

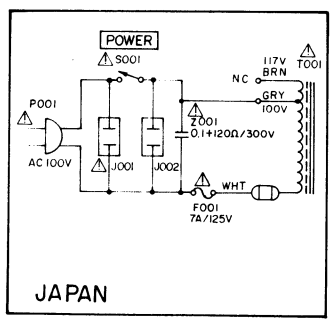
# BX-300

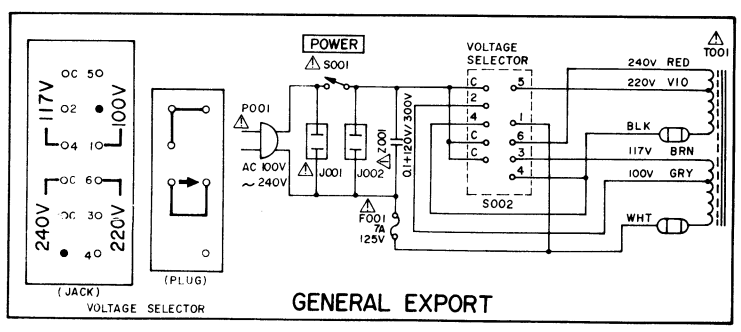
# TEAC SCHEMATIC DIAGRAM BX-500










**MAIN PCB**

| | | | | | |
|---|---|---|---|---|---|
| U301, U302 | NJM4559DD | Q111, Q211 | 2SC1815 (GR) | D101 ~ D104 | 1S2473 |
| U303 | HA12002 | Q112, Q212 | 2SA949 (Y) | D201 ~ D204 | |
| | | Q113, Q213 | 2SC2229 (Y) | D105 ~ D107 | 1S2471 |
| Q101, Q201 | 2SA1015 (GR) | Q114, Q214 | 2SC2235 (Y) | D205 ~ D207 | |
| Q102, Q202 | 2SB737 (S) or (R) | Q115, Q215 | 2SA965 (Y) | D108, D208 | HZ6A3U |
| Q103, Q203 | 2SD786 (S) or (R) | | | | |
| Q104, Q204 | 2SC1815 (GR) | Q116, Q216 | 2SD718 (O) | D301, D302 | HZ12BIL |
| Q105, Q205 | 2SC2240 (GR) | Q117, Q217 | 2SB680 (O) | D303 | WZ270 |
| | | Q118, Q218 | 2SC2240 (GR) | D304 | 1S2471 |
| Q106, Q206 | 2SC2240 (GR) | | | D305 | 3D4B41 |
| Q107, Q207 | 2SA995 (F) | Q301 | 2SC1815 (GR) | D306, D307 | WZ150 |
| Q108, Q208 | 2SK109 (C) | Q302, Q303 | 2SA1015 (GR) | D308 | 1S2471 |
| Q109, Q209 | 2SC2259 (F) | | | | |
| Q110, Q210 | 2SA970 (GR) | | | | |

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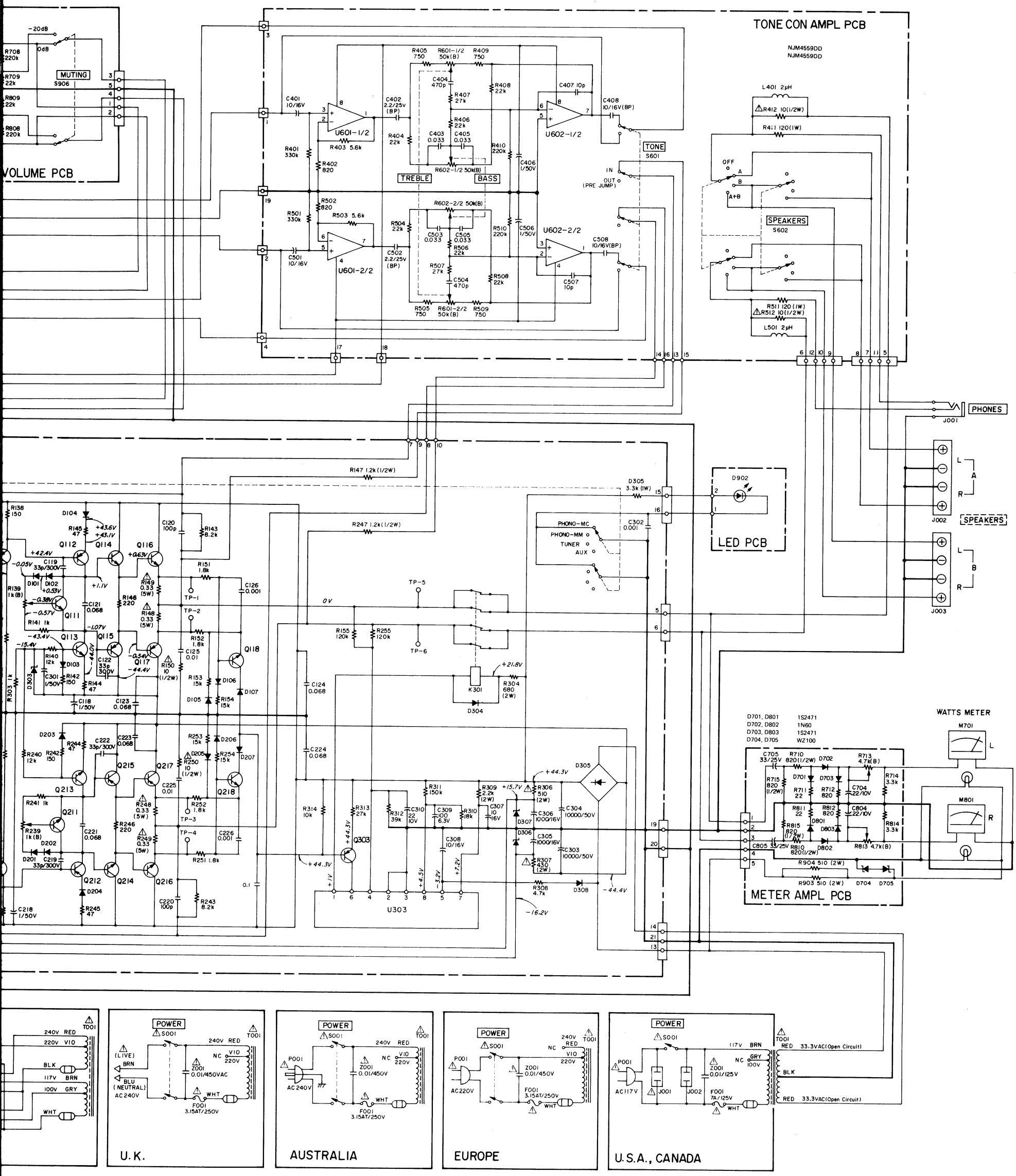
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p = PICOFARADS).
3. DC VOLTAGES MEASURED WITH NO SIGNAL INPUT, AND WITH THE TONE SWITCH IN THE OUT (PRE JUMP) POSITION.
4. ⚠PARTS MARKED WITH THIS SIGN ARE SAFETY CRITICAL COMPONENTS. THEY MUST ALWAYS BE REPLACED WITH IDENTICAL COMPONENTS - REFER TO THE TEAC PARTS LIST AND ENSURE EXACT REPLACEMENT.




# High Speed DC Integrated Amplifier

# BX-500